

Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Story of the Week
Readers Join the Game
Wid Siegfried
Vince Black
Hy Jarvis
Jim Donnelly
Dick Schneberger
Bob Taylor
Pete Booth
Van Clothier
Paul Sullivan
Sam Glass
Henry Knowlton

Story of the Week

"Daddy, is it true that you never forget a face?"
"That's right, son."
"Goody for you, Dad. I busted your shaving mirror."

Readers Join the Game

Coupla weeks ago "Dope" exposed to regular readers of this column a request from a pundit for colorful figures of speech—local "idioms," if you please.

Response certainly is intriguing. Herewith the initial contributions:

Servel, Inc.
Evansville, Indiana

Here are a few that touch upon excessive thrift:

"Tight as the bark on a tree."
"Close as wallpaper."

"The closest race I ever saw was in Scotland."

Here are some that have to do with inebriation:

"Tight as a tick."
"Fallin' down drunk."

"Seeing double."
"Hanging on the lamppost."

"Cockeyed drunk."
"In his cups."

"Stewed to the gills."
"Fried."

"Plastered."

Then there are those dealing with feminine charms.

"Built like a brick outhouse."
"Shapely as Venus."

"A sweet dish."
"Well-equipped, fore and aft."

Some of the miscellany that come to mind follows:

The victim of a conspiracy is "left holding the bag."

When one fails to keep an engagement, he "stood me up."

In eastern Virginia, to whip is to "whup"; and, instead of admiring, the native "makes mirations."

A distinguished automobile engineer once commented on an electrical installation I had made on his car: "To get at that damn thing you'd need the eye of an eagle and the hand of a midwife." He might have added, "as well as the patience of Job and the wisdom of Solomon."

I recall the refrain of an old
(Continued on Page 8, Col. 1)

NFPA Permits Crawl Space To Be Plenum

BOSTON—A number of revisions are included in the new National Fire Protection Association standard, "Residence Type Warm Air Heating and Air Conditioning Systems," covering new material on duct clearances, a new section on recommendation for heat pump systems, and permission to use certain semi-combustible ducts with low temperature systems.

Standard No. 90B now recognizes for the first time using under floor space—crawl space—of one story dwellings as a channel for distribution for down-flow furnace systems.

Pointed up in the standard are three subdivisions to the section "Cooling and Heating Units in Series." The first states that "Heating furnaces of the combustion type shall not be located 'downstream' from cooling units unless the furnace is listed for such use."

Second, "Heating furnaces shall not be located 'upstream' from cooling units unless the cooling unit is designed or equipped so as not to develop excessive temperature or pressure."

Finally, "Heating furnaces may be installed in parallel with
(Concluded on Page 4, Col. 5)

Warren Commercial Units for '57 Are 'Product-Designed'

ATLANTA—In commemoration of its 75th anniversary, which will occur in 1957, Warren Refrigerators has introduced a completely new line of commercial refrigerators, called the "Diamond Jubilee Series."

Designed by Madison H. Dean, the refrigerators are intended to more effectively display refrigerated foods of all types, and also display larger quantities, the company said.

The new series features acid-resistant porcelain interiors and exteriors, acid-resistant porcelain color bands on the fronts without extra charge, and stainless steel trims and moldings. The bands may easily be replaced as desired in order to change the color scheme, it was pointed out.

First showing of the new models was at a three-day national convention in Atlanta, attended by over 200 Warren distributors from all over the United States and Canada.

The line includes a "Master Merchandiser" for meats, produce Master Merchandiser, refrigerated shelves for dairy displays, dairy "Super Merchandiser," Master Merchandisers and Super Merchandisers for ice cream and for frozen foods, and "Island Master Merchandiser" for frozen foods and ice cream.
(Concluded on Page 25, Col. 1)

Servel To Make Fort Worth Group Offers Detailed Just Gas Coolers, Estimate Sheet To Keep Bids In Line Refrigerators

ATLANTIC CITY, N. J.—Servel is out of the electric refrigeration business.

John H. Wall, executive vice president of Servel, Inc., made that clear at the annual convention of the American Gas Association on Oct. 15.

Wall said: "On this past 18th day of September, we sang the 'swan song' during the manufacture of the last Servel compression (electric) refrigerator. I tell you today, officially, Servel is out of the electric refrigeration business."

"Servel is, as of this date, in the civilian end of the business, exclusively a manufacturer of absorption refrigerators and gas-fired, absorption type all-year air conditioning."

Wall said Servel has discontinued the manufacture of room air conditioners and is in the process of selling manufacturing equipment, tools, and dies required for that type of manufacturing.

He added that the company discontinued selling freezers and water heaters some time ago.

(Concluded on Back Page, Col. 1)

National Union Electric Buys ArmstrongFurnace

COLUMBUS, Ohio—National Union Electric Corp. has agreed to buy the assets of Armstrong Furnace Co., it was announced here recently. C. Russell Feldmann, National Union board chairman and president, revealed that the company has acquired Armstrong's name and business in an all cash transaction.

Armstrong shareholders met Oct. 6 in Columbus to approve the sale.

"The acquisition will diversify National Union's operations and broaden its earning base," Feldmann said. Both the products and present operating management of Armstrong will be retained.

W. J. Olsen, who served as president and director, is now a vice president and director of National Union and the general manager of Armstrong Furnace Co., Div. of National Union
(Concluded on Page 4, Col. 1)

FORT WORTH, Texas—To help contractors avoid mistakes and omissions when submitting bids, a detailed estimate sheet has been prepared by a committee of the Fort Worth Air Conditioning Association.

The forms are being made available to non-member contractors at small cost as well as association members, reveals Col. Edwin D. McCoy, executive secretary of the group.

Decision to develop such an estimate sheet grew out of the fact that "there was a wide range of bids on similar jobs," explains Col. McCoy.

"One contractor bidding on a highly competitive job admitted that after he submitted his bid he found out that he forgot to include the unit. In another case," Col. McCoy says, "the contractor forgot to include the ductwork on his bid. In both cases, having submitted the low bid, these contractors had to produce."

Considerable work on the part of several contractors went into the preparation of the estimate sheet, which consists of three 8½ by 11-in. pages. When the forms were completed, a class was conducted for member and non-member contractors on the use of the estimate sheet.

Under the direction of a contractor, who used an actual bid he had recently been awarded, other contractors at this session each filled out the form.

The estimate sheets have been printed in pads of 50 so that the four-page form (the fourth page is blank) can be easily torn off and attached to the contract to make a permanent record.

First page of the sheet lists the obvious details of customer's name and address,
(Concluded on Page 25, Col. 3)

Philco Ranges To Be Made by Avco

PHILADELPHIA—Henry Hubbard, vice president in charge of electric range operations for Philco Corp., disclosed recently that an arrangement has been concluded with the Crosley and Bendix Home Appliances Div. of Avco Mfg. Corp. whereby Philco ranges will be manufactured to Philco specifications in Avco's Nashville, Tenn. plant.

The agreement is effective Oct. 31. On that date, the Philco range plant in Mt. Clemens, Mich. will be closed, it was reported. Some 400 persons have been employed at the Mt. Clemens plant, which Philco acquired from Electromaster, Inc. in 1949.

Hubbard said every effort will be made to find employment for Philco employees with other companies in the Michigan area.

Last month, James M. Skinner, Jr., Philco president,
(Concluded on Back Page, Col. 5)

DON'T MISS . . .

1-Horsepower Room Units Gain Favor 10
Year-Round Central System Put Outdoors

Elks Club Installation Saves Space, Noise..... 12

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Ten-Minute Cycling Seen as Ideal
To Control Temperature, Humidity..... 15

Egg Display Cabinet
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ARW Group Planning Contractors' Product Clinic Dec. 14-15

CHICAGO—A new type of "Product Knowledge Clinic" taking the form of an educational and panel discussion type meeting in which an audience of air conditioning and refrigeration contractors will be invited to participate, is being planned by the Air Conditioning & Refrigeration Wholesalers Association, Region Six.

Dates planned for the meeting are Dec. 14 and 15, in Chicago, reports the ARW committee comprised of James Alter, J. P. Glass, Jr., and E. Peter Sorensen.

The program will be featured
(Concluded on Back Page, Col. 4)

B-W Brake Div. Names Wood Gen. Sales Mgr.

EVANSVILLE, Ind.—Donald J. Wood has been appointed general sales manager for the Evansville Div. of Bendix-Westinghouse Automotive Air Brake Co.

In announcing his appointment, John R. Morrill, general manager of the Evansville Div., pointed out that Wood is to be responsible for the marketing of Bendix-Westinghouse compressors and condensing units to the refrigeration and air conditioning industry. This line will be manufactured in Bendix-Westinghouse's newly-acquired facilities here.

Wood, a Navy veteran of World War II and Korea, is an
(Concluded on Page 4, Col. 5)

55% of Purchasing Agents See Final Quarter Business Topping '55 Period

NEW YORK CITY — "Definitely bullish" is the fourth-quarter outlook of most purchasing executives, the National Association of Purchasing Agents concludes in reporting results of its September survey of some 200 major companies.

Two-thirds of the purchasing officials surveyed believe their business in the last quarter will be better than the third quarter of 1956 and only 7% think it will be worse, the association stated.

And 55% of the agents expect business to be better than the very good final quarter of 1955, with 18% predicting it to be not as good.

Opinions of those who see no change or a decline in general

business conditions are characterized as "conservatism rather than concern."

Higher production in September was reported by 38% of the purchasing agents, with only 9% having cutbacks. In August, 25% of the executives reported higher production and 24% disclosed curtailed production.

The association said the survey also disclosed a "general feeling" that inventories are stabilizing at a "realistic level." Low inventories of steel and nickel, particularly with current indications of a good fourth quarter, are the "greatest concern of many," it was stated. However, most purchasing officials seem to be "satisfied" with the over-all inventory situation at this time.

La. Requires Contractors License To Get Contracts over \$30,000

BATON ROUGE, La.—Louisiana contractors who bid on or take contracts in excess of \$30,000 are now required to have a state contractor's license.

The law, which set up a licensing board and outlines the requirements for a license, became effective last Aug. 1. It applies to all contractors whether public or private and whether general or sub-contractors. Contractors engaged in private residential construction are specifically exempted.

The law requires the licensing board to classify each contractor on the type or types of contracts on which he may bid on the bases of his written application, his financial statement, his previous experience, and any other pertinent facts bear-

ing upon the applicant's responsibility in business as a general contractor.

After receiving his license, which expires on Dec. 31 of each year, the contractor will not be permitted to bid on or perform a type of work not included in his license. However, upon presenting satisfactory proof, the contractor may apply for and receive a change in his classification.

The law further prescribes that no awarding authority is to issue plans and specifications or bidding and proposal forms to anyone other than a licensed contractor.

Contractors violating the act are subject to a fine not exceeding \$1,000 and/or three months in prison.

Dairy Show To Have 62 Refrigeration Displays At Atlantic City, Oct. 29

WASHINGTON, D. C.—More than 25,000 visitors are expected to view the latest in dairy equipment at the 20th annual Dairy Industries Exposition at Convention Hall in Atlantic City, N. J. from Oct. 29 to Nov. 3.

Some 62 manufacturers of refrigeration equipment will be among the 400 exhibitors who will cover some seven acres.

While admission to the show will be free to dairy processors and members of participating dairy associations, entry fees will be charged to non-exhibiting equipment manufacturers and suppliers. Information concerning these fees may be obtained from the Dairy Industries Supply Association, 1145 19th St., N.W., Washington 6, D. C. DISA is sponsoring the show.

A special feature of the show will be "3-A Sanitary Standards Day" on Nov. 1, recognizing the all-industry program for 3-A sanitary standards for dairy equipment.

Revco, Addison To Back Purdue Refrigeration, Climate Control Study

DEERFIELD, Mich. — Revco, Inc., Deerfield, Mich. and Addison Products, Addison, Mich., have become sponsors of the Purdue Research Center for Refrigeration and Climate Control, it was made known recently in a joint statement by G. F. Forsthoefel, Revco president, V. C. Knight, president of Addison, and Prof. W. E. Fontaine, Director of the Center, now nearing completion at Purdue.

Prof. Fontaine, in Deerfield and Addison to accept the first sponsor grants, reviewed the current activities of the Purdue Refrigeration Center and went on to say; "This is the beginning of a tremendously expanded refrigeration research program at Purdue. Now that our unequalled research facilities are available, and with financial assistance from forward thinking members of the entire refrigeration industry, further material advancements in the general field of refrigeration are sure to develop at the Center."

"A volunteer committee from the industry, under the chairmanship of L. W. Larsen of Tecumseh Products Co., is already functioning. All manufacturers in the refrigeration industry will be invited to participate in sponsoring activities of the Purdue Research Center and to share in its findings."

Sponsoring members of the Center may assign specific projects for exploration and development. "In these cases," according to Prof. Fontaine, "the results from such research will accrue solely to the manufacturer assigning and paying for the project."

Addison Products Co. was one of the first companies to develop package home air conditioning.

While in Deerfield, Prof. Fontaine previewed the new 1957 Revco "Bilt-In" line which will be shown to distributors in New York on Nov. 9.



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Praised for years by installation and service men.

Built-in Heat Exchanger

NO RUSTING — polished aluminum casing

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800 to 5,600 BTU's Per Hour

COOLMASTER
2,500 to 60,000 BTU's Per Hour

RADIAL
2,500 to 23,000 BTU's Per Hour

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2,500 to 12,000 BTU's Per Hour

Say '57 Frigidaire Models Styled To Give Kitchen Built-In Look

DAYTON — Over 400 key executives from Frigidaire's national distributing organization converged on the firm's headquarters here last week to hear 1957 sales plans and preview the new line of electric refrigerators, ranges, and food freezers.

Herman F. Lehman, Frigidaire general manager, welcomed distributor principals, and C. H. Menge, general sales manager, and other Frigidaire executives briefed the group on over-all sales, advertising, and promotion plans for the year ahead.

Lehman said the company's 1957 appliance line incorporates a totally new styling concept.

Although he did not disclose details, he revealed Frigidaire engineers and GM stylists have designed new refrigerators, elec-

tric ranges, and food freezers to give the kitchen a built-in look without expensive alterations.

The industry spokesman characterized Frigidaire's new styling concept as "embodying the uncluttered, squared-up look popular in modern architecture."

He predicted Frigidaire's new approach would touch off an industry-wide trend toward free-standing units with built-in look.

Fedders Names Distributors

MASPETH, N. Y.—Appointment of two new air conditioning distributors in Cincinnati and Denver has been announced by the Fedders-Quigan Corp.

They are the Richards Supply Co. in Cincinnati, and B. S. Dreco, Inc. in Denver.

T. J. Fitzgerald Heads Hotpoint To Close 3 Regional Offices Amana Chicago Branch, First for Company

AMANA, Iowa — Establishment of a factory branch in Chicago and the appointment of Thomas J. Fitzgerald, a veteran of 33 years in the appliance business on the manufacturer and retailer levels, to head it, were announced here recently by J. A. Rishel, Jr., general sales manager.

Amana's Chicago branch, located temporarily at Amana's Merchandise Mart office will serve dealers in the Chicago distribution area.

The new factory branch, Amana's first, has been established "to give the firm a better understanding of the distributor's problem," Rishel explained. No other branches are planned.

CHICAGO—Hotpoint Co. has announced that regional offices now maintained in New York, Chicago, and Atlanta will be closed.

Marketing and merchandising personnel affected will be transferred to the general offices in Chicago. Because of distance, a regional office in San Francisco will be retained.

In making the announcement, John C. Sharp, president, said the realignment of field personnel was being made to get improved marketing efficiency and shorter lines of communication from factory to the level of distribution.

Sharp said this is in keeping with Hotpoint's policy that local distributors assume full respon-

sibility for the marketing and servicing of goods in their territories.

"With a highly trained staff of product specialists always available at the factory," he said, "any Hotpoint distributor can request and get immediate assistance on all phases of marketing, distribution, merchandising, advertising, and sales promotion."

Sharp said the improved efficiency expected with this concentration of factory services would open the way to quick, accurate communication between factory, distributor, and dealer.

He pointed out that today's highly competitive appliance market is rapidly expanding.



Bulk • Patterns • Specified Lengths with or without connectors

More and more refrigeration manufacturers are converting to aluminum tubing. They have found it helps them reduce costs substantially. They have also found conversion is much simpler, more trouble-free when they deal with an experienced tubing manufacturer. If you are considering converting to aluminum or if you would like all the money-saving facts, call on Bohn. You are assured the same high quality tubing that goes into Bohn evaporators—plus the experience and facilities to provide it in the form best suited for your production methods.

TUBING • CONNECTORS • EVAPORATORS • FREEZER PLATES



BOHN CONNECTORS are flash-butt welded aluminum and copper tubing. They are then 100% inspected by two tests: (1) Flex test checks the strength of the bond. (2) Pressure test under water makes sure the bond is gas tight.

BOHN Aluminum and Brass Corporation • DETROIT 26, MICHIGAN

SALES OFFICES: Boston, Chicago, Cleveland, Dayton, Detroit, Indianapolis, Milwaukee, Minneapolis, Moline, New York, Philadelphia, Rochester, St. Louis

For more information about products advertised on this page use Information Center, page 16.

National Union Buys Armstrong--

(Concluded from Page 1, Col. 4) Electric Corp., the name under which the company will now conduct business.

In an open letter to the Armstrong organization and its suppliers, Olsen said: "I am pleased to report to you that National Union was my personal selection as the successor to the present ownership. . . . As you know, for several years now I have relieved the principal stockholders of the operating management of Armstrong. But beyond

this they wished to divorce themselves completely from Armstrong to devote their full time and capital to their other enterprises.

"Armstrong's growth in the heating and air conditioning industry has been very rapid. But to maintain this program Armstrong must expand its research and development as we enter the field of electronics, heat pumps, and greater use of electricity in our industry.

"You will be pleased to know

that National Union maintains a research laboratory in Orange, N. J. The prime objective of this union of manufacturing and research know-how and facilities is to keep Armstrong an industry leader.

"I know you will not encounter any essential changes in our manner of doing business."

Bouchard Appointed

CHICAGO—Appointment of Conrad Bouchard as general purchasing agent for Mitchell Mfg. Co. has been announced by J. W. Alsdorf, president.

York Names Outlet In Eastern Territory

YORK, Pa.—C. B. Stone, Inc., 53 Warwick St., Middletown, Conn., was recently appointed a York residential air conditioning equipment distributor for that area, it was announced by R. E. Cassatt, commercial sales manager, York Corp., subsidiary of Borg-Warner Corp.

Operated by C. B. Stone, Sr., president, the firm will distribute to retailers in New London, New Haven, and Middlesex counties, Connecticut.

NFPA Standard--

(Concluded from Page 1, Col. 2) cooling units by use of dampers located to direct the air to either the furnace only, or to the cooling unit only, as desired."

Prepared by a representative national committee under the chairmanship of F. H. Faust of General Electric Co., Bloomfield, N. J., the new 22-page standard "is intended to prescribe reasonable provisions based on minimum requirements for safety to life and property. It does not attempt to establish a procedure or code for the design of warm air heating or air conditioning systems from the standpoint of performance."

Under subtitle "Use of Under Floor Space as Supply Plenum," the new NFPA standard requires that "When heated air is discharged downward into an air chamber which forms a plenum of an under floor space, the following shall apply:

"a) Use of such spaces shall be restricted to one story portions of single family residences.

"b) Such spaces shall not be more than 24 in. in height to the bottom of floor joists, shall be cleaned of all combustible material, and shall be tightly and substantially enclosed.

"c) The enclosing material of the under floor space including the side wall insulation shall be not more flammable than 1 in. (nominal) wood boards (flame spread classification of 200). Combustible ground cover shall be covered with at least 2 in. of sand or other noncombustible material.

"d) Access, if provided to such spaces, shall be through an opening in the floor and shall not be greater than 24 by 24 in.

Under "Heat Pump Systems" provisions, the standard states that "Heat pump systems that require supplemental heating units shall be equipped with an electrical interlock that will not allow the supplemental heating units to operate if the indoor air circulating fan is not operating."

In addition, "Heat pump systems that are equipped with supplemental heating units shall be equipped with a temperature limit control located not more than 2 ft. 'downstream' from all heat input devices and of a type that will limit outlet air temperature to 200° F."

Copies of this standard are available from the NFPA, 60 Batterymarch St., Boston, for 35 cents.

Wood Named--

(Concluded from Page 1, Col. 4) engineering graduate of the University of Michigan. He began his business career as an appropriations analyst for American Steel & Wire Co., Cleveland. Later he became sales manager for Duval Engine & Equipment Co. of Cleveland.

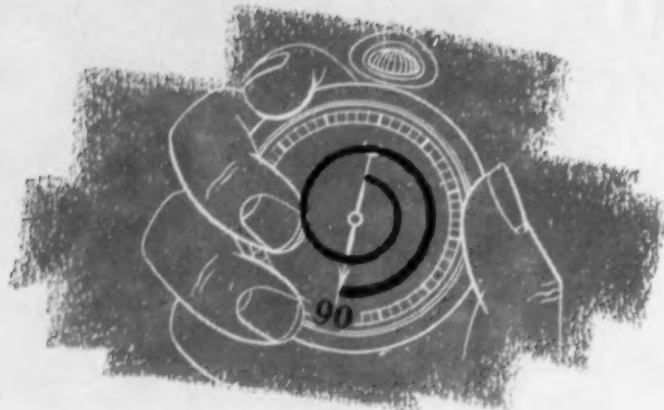
In 1953, he joined Titan Valve & Mfg. Co., also of Cleveland, and held positions of sales engineer, sales manager, vice president, and general manager.

Wood comes to Evansville from the home plant of Bendix-Westinghouse in Elyria, Ohio where he was sales manager of the Air Conditioning Dept.

PENN'S "90-SECOND DECISION" PROTECTS YOUR COMPRESSORS AGAINST COSTLY DAMAGE



Penn Series 275 oil protection control operates on the difference between the oil pressure line and the crankcase pressure. Trip-free time delay switch is completely compensated to assure uniform timing under all ambient conditions.



Series 275 Oil Protection Control Shuts Compressor Off If Oil Pressure Doesn't Build Up Within A Safe Period

Guarding your refrigeration compressor against damage if oil pressure fails is the job that the Penn Series 275 oil protection control does so well. A sudden oil pressure drop may be a momentary fluctuation—or it may be a serious threat to seals and bearings. There's a critical period . . . say 90 seconds . . . in which pressure must build up to a safe level or it is dangerous to let the compressor continue running.

Here's the way Penn does the job. If oil pressure does not build up when the compressor is turned on, or it dips too low during the normal operating cycle, Penn 275 closely watches pressure readings. In a precise time period—those critical 90 seconds again—pressure must regain a safe level or Penn will automatically shut the compressor off. Then, the trouble can be corrected before damage occurs.

Learn more about this low-cost guard for your refrigeration compressors and other pressure lubricated equipment. Penn will protect you against severe losses in time and money. Get all the details from your compressor manufacturer or wholesaler.

PENN CONTROLS, INC. Goshen, Indiana

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Practical Refrigerating Engineers To Meet In Detroit Oct. 29-Nov. 2

DETROIT—Program for the 47th annual convention of the National Association Practical Refrigerating Engineers to be held in the Statler hotel here Oct. 29-Nov. 2 was announced last week.

LeRoy Etzel, president, said there will be a pre-convention meeting at 4 p.m., Monday, Oct. 29 of the board of directors, board of advisors, and national committee in hotel Headquarters room—Parlor B.

Those who have invitations may attend the President's Reception from 7 to 9 Monday evening, sponsored by the Stroh Brewery Co.

Frank J. Drogosch, chief safety engineer, City of Detroit, will welcome NAPRE visitors at 9:30 a.m. Tuesday when the annual meeting convenes. A business session will follow in the Wayne room of the hotel at 10:15.

"Manufacture & Inspection of Unfired Pressure Vessels" will be Edward P. Callanan's theme at the Safety Session in the Wayne room at 11 a.m. He represents the Michigan Ice Machine Co., Detroit.

An Educational Session on "Contract Service & Maintenance Programs," conducted by Guy R. King, instructor at Santa Monica Junior college is set for the Wayne room at 1:30 p.m., Tuesday.

Bert C. McKenna, chief engineer, Central Cold Storage Co., Chicago, will talk on "Preventive Maintenance by Plant Personnel" at 2:30.

Exhibits will be shown in the Bagley room at 9 Wednesday morning, Oct. 31. Special feature is "Car FGE 1600," instruction and demonstration car of the Fruit Growers Express Co. The car will be displayed at a convenient downtown location Oct. 31 through Nov. 2. Carl Booker, instructor, says members' registration badges will admit them.

On Thursday, Nov. 1, at 8 a.m. a Refrigerated Transportation Forum will highlight the Educational Session in the Wayne room. Dean Harold P. Hayes will moderate.

V. W. Snyder, service manager, Thermo King Corp., Minneapolis, will explain "Servicing Truck Units" at 8:30 Thursday morning.

"Maintenance of Mechanically Refrigerated Railroad Car Units," will be discussed by Gerald E. Hickett, of the Transportation Div., Trane Co., La-Crosse, Wis., at 9.

At 10:30 Chester R. Anderson, president, Gay Engineering Corp., Los Angeles, will talk on "Vacuum Cooling the Field Loaded Refrigerated Car."

Another Education Session comes at 1 p.m. Thursday in the Wayne room. Fred L. Young, Jr., vice president of Freezing Equipment Sales, York, Pa., will discuss "Package Food Freezing and Cold Storage Systems."

"Practical Application of Hermetic Centrifugal Refrigerating Machines," will be covered by Robert Loebel, project engineer in the Centrifugal Compressor Dept., American Blower

Corp., Detroit, at 2 p.m.

On Friday, Nov. 2 at 11:30 p.m., post convention tours will be conducted by arrangement with the Detroit Chapter committee. Power, refrigeration and air conditioning plants, and buildings to be covered include the Gelatin Products Corp., Fred Sanders Corp., Stroh Brewery Co., Detroit's new City-County Bldg., Northland shopping center, and the Statler hotel.

Moisant International Airport Will Include Air Conditioned Tower

NEW ORLEANS—An apparent low bid of \$679,700 for construction of the north pier and control tower of Moisant International Airport has been announced by Edward D. Rapier, chairman of the city aviation board.

The air conditioned control tower will be 100 ft. high and will be situated near the present airport building, it was explained.

Consent Decree Settles Comfort Zone Corp. Case

WASHINGTON, D. C.—Comfort Zone Corp., Mineola, Long Island, N. Y., has agreed with the Federal Trade Commission to stop describing the firm's air cooler as "Air Conditioner."

A Commission cease-and-desist order prohibiting this claim follows settlement of a complaint alleging that the device is not a true air conditioner but a machine which simply draws air over water and into blowers.

According to the complaint, the device, called the "Weather

Zone Portable Air Conditioner," was advertised as "NOT a fan, NOT a freezer, but truly an air conditioner. . . ."

The order was originally contained in an initial decision issued by J. Earl Cox, who approved the consent settlement.

The company must not use the word "Air Conditioner" or represent in any way that the device is an air conditioner.

Named in the order are the company's officers: Harry Goldberg (actually a former vice president) and John Murano.

The agreement is for settlement purposes only.

The bicycle built for two, an engineering achievement with a high popularity rating in 1906 — the year that the first Brunner-engineered product made its first appearance.

TODAY GO BRUNNER

The years behind us mean more sales advantages for your future.

There's a Brunner-engineered condensing unit for every commercial refrigeration application!

BRUNNER MANUFACTURING CO., UTICA, N. Y.
 The Brunner Co., Gainesville, Ga.
 In Canada: Brunner Corp. (Canada) Ltd., Toronto, Ont.

50th Anniversary BRUNNER SINCE 1906
 PROVEN QUALITY
 DEPENDABLE

Open-type condensing units for commercial refrigeration range from 1/4 H.P. through 10 H.P. Other units from 1/4 H.P. through 3 H.P.

WITH THE WORTHINGTON YOU CAN QUOTE

Exactly the right
equipment for all air
conditioning problems

Just "quoting" on every job is not enough!

To make really big sales you must be able to recommend and deliver *exactly* the right equipment for *every* air conditioning job. That's why more and more dealers everywhere are switching to Worthington! They know that with this complete line their recommendations are *always* right for the job in question. There's never a compromise or "second best" solution to even the most complex or difficult problem when you handle Worthington air conditioning equipment!

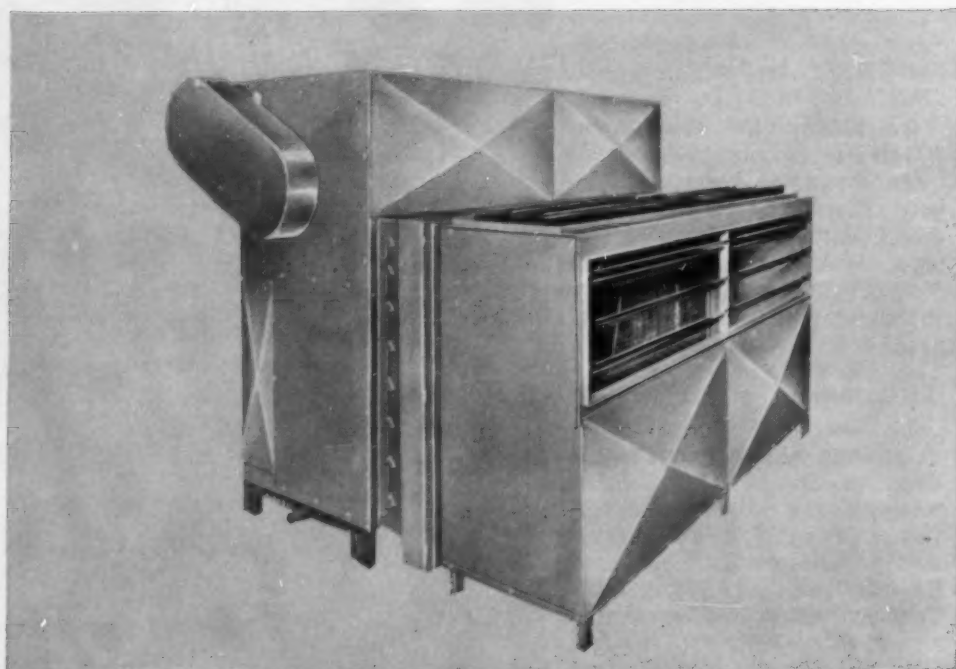
Your air conditioning prospects know this, too.

So why not cash in on the great Worthington name—a symbol of excellence backed by more than 70 years of experience and front-line service in air conditioning and refrigeration. For complete details on the units shown on these pages—and the complete Worthington line—write: Section A.6.123, Air Conditioning and Refrigeration Division, Worthington Corporation, Harrison, New Jersey.

WORTHINGTON

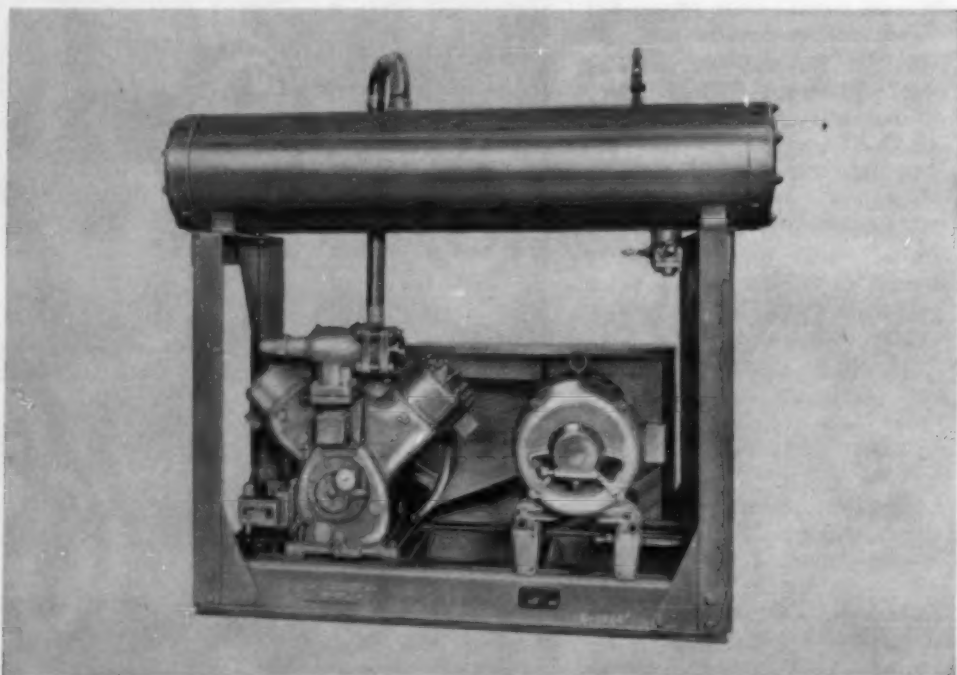


CLIMATE ENGINEERS TO INDUSTRY, BUSINESS AND THE HOME



Central Station Air Conditioners—Cabinet Type

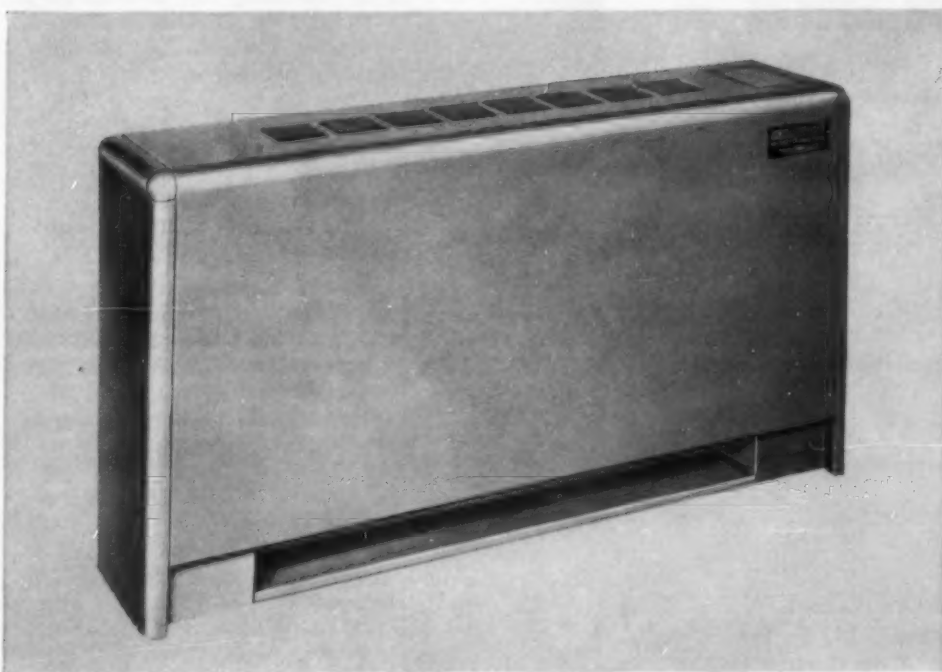
Horizontal or vertical construction of this Worthington air handling unit permits on the job arrangement to suit individual space requirements. Up to 19,200 CFM. 1.42 to 106 tons capacity.



Condensing Unit

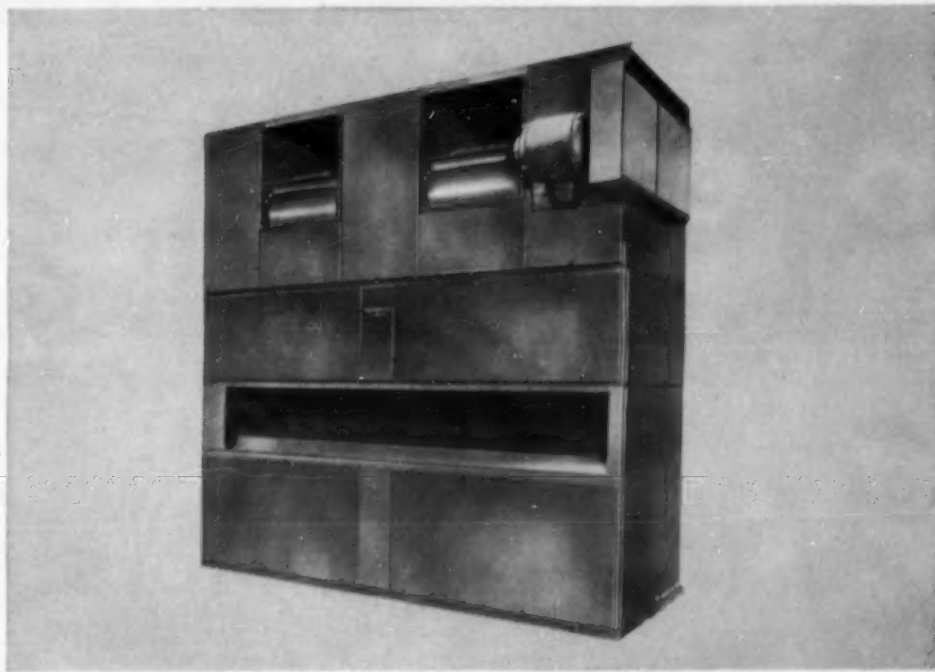
Minimum weight condensing unit especially designed to occupy minimum space. Compressor unit with separate Worthington Evaporative Condenser may be used in place of water-cooled condenser. 3–150 tons capacity.

VERSATILE LINE ON EVERY JOB!



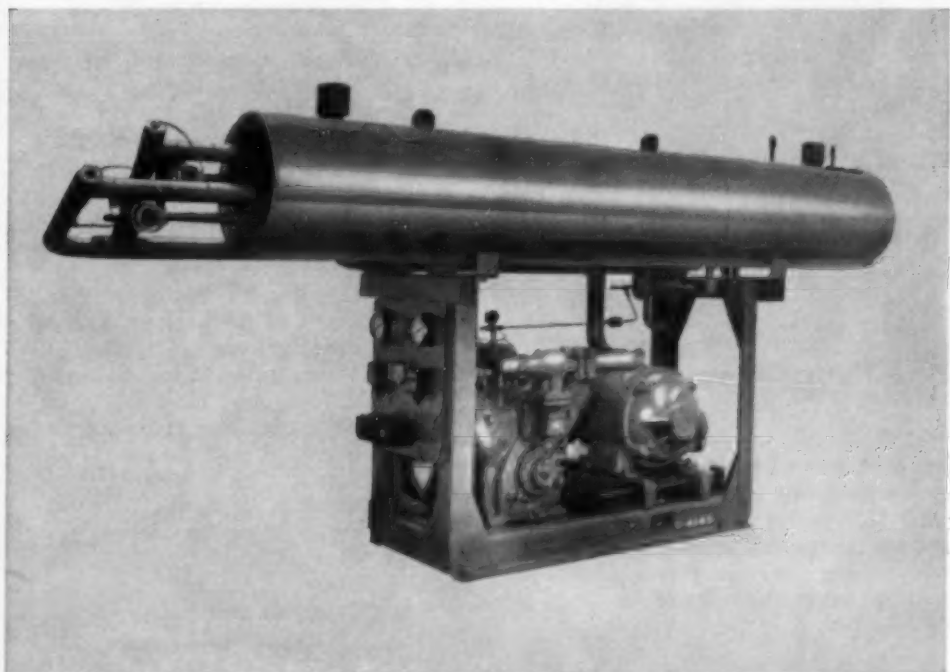
Fan and Coil Room Air Conditioners

Offers low cost air conditioning for any type of multi-room structure. Gives both heating and cooling in one compact unit, including filtration and ventilation. Can be installed as cabinet or recessed in wall. 200, 300, 400 and 600 CFM capacity.



Remote Packaged Air Conditioner

Out-of-space installation saves on valuable floor space. Unit is highly flexible—fan section mounted on top, for front or rear discharge. Removable panels permit easy inspection and service. 15, 20, 25 tons capacity.



Packaged Liquid Chiller

Chiller is factory assembled and engineered for trouble-free, low-cost operation. Wide selection of liquid chillers available from 7½ to 200 hp.



Evaporative Condenser

Available in 11 sizes—from 10 to 120 tons nominal capacity. Can be installed indoors or out—offers front, top or rear air discharge.

Inside Dope

By GEORGE
F. TAUBENECK

(Continued from Page 1, Col. 1)

verse: "Honey, I know my life's been fast, but I am on my last lap now."

LOUIS RUTHENBERG,
Chairman

Wid Siegfried

Superior Valve & Fittings Co.
Pittsburgh, Pa.

"Dope":

Mixed up as a dog's breakfast.
Crazy as a loon.
Drunk as a skunk.
Tight as a drum.
Good as gold.
Right as rain.
Poor as a church mouse.
Cheap as dirt.
Crooked as a dog's hind leg.

Better be safe than sorry.

W. A. SIEGFRIED,
President

Vince Black

Grant Advertising, Inc., Co.
Dayton, Ohio.

George:

Maybe you can use these—they're a bit altered.
Big enough to go bear hunting with a switch.
Colder than a well digger's behind.

V. P. BLACK,
Vice President

Hy Jarvis

Refrigeration Engineering Co.
Los Angeles, Calif.

George:

"Happy as though I had good sense!"
"Lower than a snake's belly!"
"Hotter than the hinges of Hell!"

"Shivering like a dog eating peach stones!"

"He would be tall if so much wasn't turned under!"

"I hope it flits in your mess kit!"

"To Hell in a hand basket!"

"Hotter than blazes!"

"Crazy as a loon!"

"Nuttier than a fruit cake!"

"Hot as a June bride in a feather bed!"

"Cold as a well digger in the winter!"

"Eatin' high on the hog!"

"Cut straw and molasses!"

"Bendin' an elbow!"

"Gritty as fish eggs rolled in sand!"

"Leaky mouth!"

"Sunday go-to meetin' clothes!"

"Take to the tall timber!"

"Go hog wild!"

"I'll be horn-swoggled!"

"As nervous as a bad girl in church!"

"Hot as Hell in Texas!"

"Man, I was born tired!"

"I want my coffee black as Toby's foot!"

HY JARVIS,
President

Jim Donnelly

A. O. Smith Corp.
Milwaukee, Wis.

Editor:

George Bijun's "Atlas of American Folk Talk" should get much help and prove a most interesting project.

Here are a couple of possible additions from the Columbus-Springfield area of Ohio:

"That's become quite a problem anymore" (recently).

"That's no hill" (not difficult).

There are thousands and I'm sure you will receive many more.

From the northwest side of Chicago:

"Please take out the light"

(turn it off or out or shut).

JIM DONNELLY

Dick Schneberger

Crosley Div., Avco
Cincinnati, Ohio

Editor:

For your collection of colorful speech and state peculiarities in idioms don't leave out Georgia "fixin."

The girl is fixin to get married. It's fixin to rain, etc.

And don't forget what divides North from South.

Youse guys and you all. Just another Dope reader.

R. H. SCHNEBERGER

Bob Taylor

Robert S. Taylor
Evansville 14, Ind.

Editor:

Here are a few more examples of "local speech imagery" picked up from (1) a boyhood in Texas, (2) college in Massachusetts, and (3) home in Indiana:

1. Grinning like a jackass eating thistles.

1. As ugly as homemade soap.

1. As busy as a one-armed paper hanger with the itch.

2. As busy as a cranberry merchant on Christmas Eve.

3. As dressed up as Mrs. Astor's pet horse.

BOB

Pete Booth

Campbell-Ewald Co.
Detroit 2 Mich.

George:

You started something. Although my own supply of grass-roots sayings is not unlimited, my secretary (an Aurora, Illinois, girl) has been rattling them off like a machine gun. Herewith, the results:

"Plain as a mud fence."

"Ornery as a short-horned bull in fly-time."

"Hotter 'n Hades."

"The devil finds work for idle hands."

"Skinny as a bean pole."

"Fat 'n sassy."

"Sharp as a mother-in-law's tongue."

"Right as rain."

"Mad as a March hare."

"Happy as a lark."

"Good as gold."

"Busy as a bee."

"Pretty as a picture."

"Slippery as an eel."

"Clumsy as an ox."

"Big as all outdoors."

"Crazy like a fox."

"Smooth as silk."

"Awkward as a bull in a china shop."

"Smooth as butter."

"Look as though you'd been drawn through a knot-hole."

"Quiet as a tomb."

"Straight as the crow flies."

"Tight as the bark on a tree."

"Raining cats and dogs."

"More guts than an army mule."

"Knee-high to a grasshopper."

"Nutty as a fruitcake."

"Straight as a string."

"Straight as a die."

"Swift as an arrow."

"Flat as a pool table."

"Clear as crystal."

"Clear as mud."

"Fat as a pig."

"Black as the ace of Spades."

"Lies like a rug."

"Nervous as a lady of the evening in church."

"Quiet as a marble in a dish-pan."

(Concluded on next page)

DEPENDABILITY and LESS SERVICE That's Why More and More Wholesalers Are Successfully Standardizing On KELVINATOR

Every day wholesalers are proving that the dependability of Kelvinator equipment assures them complete customer satisfaction.

More and more responsible, aggressive wholesalers have found that the sound policies and selling practices in Kelvinator's new comprehensive wholesaler program assure them more sales

and more profits, more customer satisfaction.

It will be well worth your while to study the advantages of this new Kelvinator wholesaling plan. Write today and get complete information on our many real advantages . . . our proved wholesaler program . . . our dependable products from a reliable source of supply.

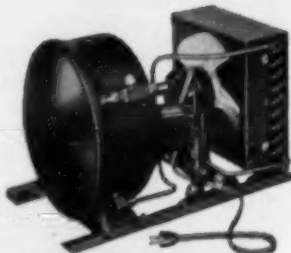
Kelvinator

Division of American Motors Corp., Detroit 32, Mich.—In Canada: Kelvinator of Canada, Ltd., Toronto 15, Ontario

American Motors Means  More for Americans

SPECIALISTS IN REFRIGERATION SINCE 1914

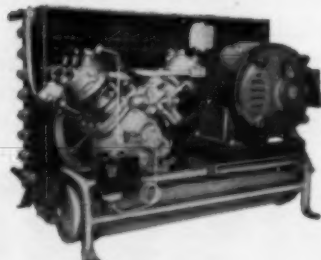
For more information about products advertised on this page use Information Center, page 16.



HERMETIC CONDENSING
UNITS



COMPRESSORS



OPEN-TYPE
CONDENSING UNIT

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from preceding page)

"Some stretches of pretty bad wheelin'."

"Lick and a promise."

"Without batting an eye."

"Hard as pulling hen's teeth."

"Calm as a cucumber."

"Clean as a whistle."

"Big as all get-out."

"Frisky as a colt."

"All het up."

"Pretty as you please."

"Quiet as a mouse."

"Whale of a big . . ."

"Sick as a dog."

"Nervous as a cat."

"Big as a house."

"Three fingers of red eye."

"Mooning like a love-sick calf."

"Big as life and twice as (pretty or grand)."

WALTER B. BOOTH

P.S.: Here are some more from me:

"Honest as the day is long."

"Wouldn't trust him as far as I could throw him."

"Innocent as a new-born babe."

Corn has to be "Knee-high by the Fourth of July."

Van Clothier

Van D. Clothier, Inc.
Los Angeles, Calif.

Editor:

I don't know in what states this originated. But my Dad, a native of California, when referring to a dark night would say:

"Blacker than the hinges on the Smoke-House Door of H---."

"American as apple pie."

"Tender as a woman's heart."

VAN D. CLOTHIER

Paul Sullivan

111 West Washington St.
Chicago 2, Ill.

"Inside Dope":

George Bijur's American Folk Talk project sounds worth while. What with television, radio, and the passing of the Little Red School House, the richness of our language, as it was spoken by people of the hills, the prairies, and the mountains is fast disappearing. To your own contributions from southern Illinois, may I add the following from my own native southern Indiana:

"Just a hoop and a holler from here."

"Hain't seen old George in a coon's age."

"Cain't see it for sour apples."

"Ain't got the sense to pound sand in a rat-hole."

"Up the crick and no paddle."

"Settin' on to rain-snow-etc."

"Looking right peart."

"Ornerier than a pole-cat."

"Naked as a blue jay."

"I admire his spunk."

"The whole kit and kaboodle."

"Since Hector was a pup."

"Meaner'n a shite-poke."

"Crazier than a bed-bug (or nut-hatch)."

"Busier than a cat on a tin roof (or fox in a hen coop)."

"Fatter than a bear in persimmon time."

"It's comin' on to rain."

"Thick as ticks in blackberry time."

PAUL SULLIVAN

Sam Glass

Koch Refrigerators
Kansas City, Kansas

Editor:

While I am "busy as a moose in fly time"; you might even say "busy as a one-armed paper hanger" I might be able to find a "couple or three" colloquialisms that I might "shoot off" to you one of these days. Please believe me I am "working myself into a lather" on some of our new material.

I am not "crazy as a coot" for writing you this note, but I did want to say that we have a new field man and I am enclosing his picture and a release.

SAM GLASS,
Advertising Manager

Henry Knowlton

Detroit, Mich.

George:

Egad . . . what a challenge.

Here is a start.

"Up a stump" (lumber ice cream).

camps).

"Like shooting fish in a barrel."

"He went down like a polled ox" (Yankee reference to "poll axe").

"If it were a bear it would bite you."

"Going fussing" (Ohio college for "having a date").

"You can catch more flies with sugar than vinegar" (Yankee).

"Have a dope" (meaning eat).

"Have a dope" (meaning eat).

"Plain as the nose on your face."

"Take the bit in your teeth."

"Tight as a tick."

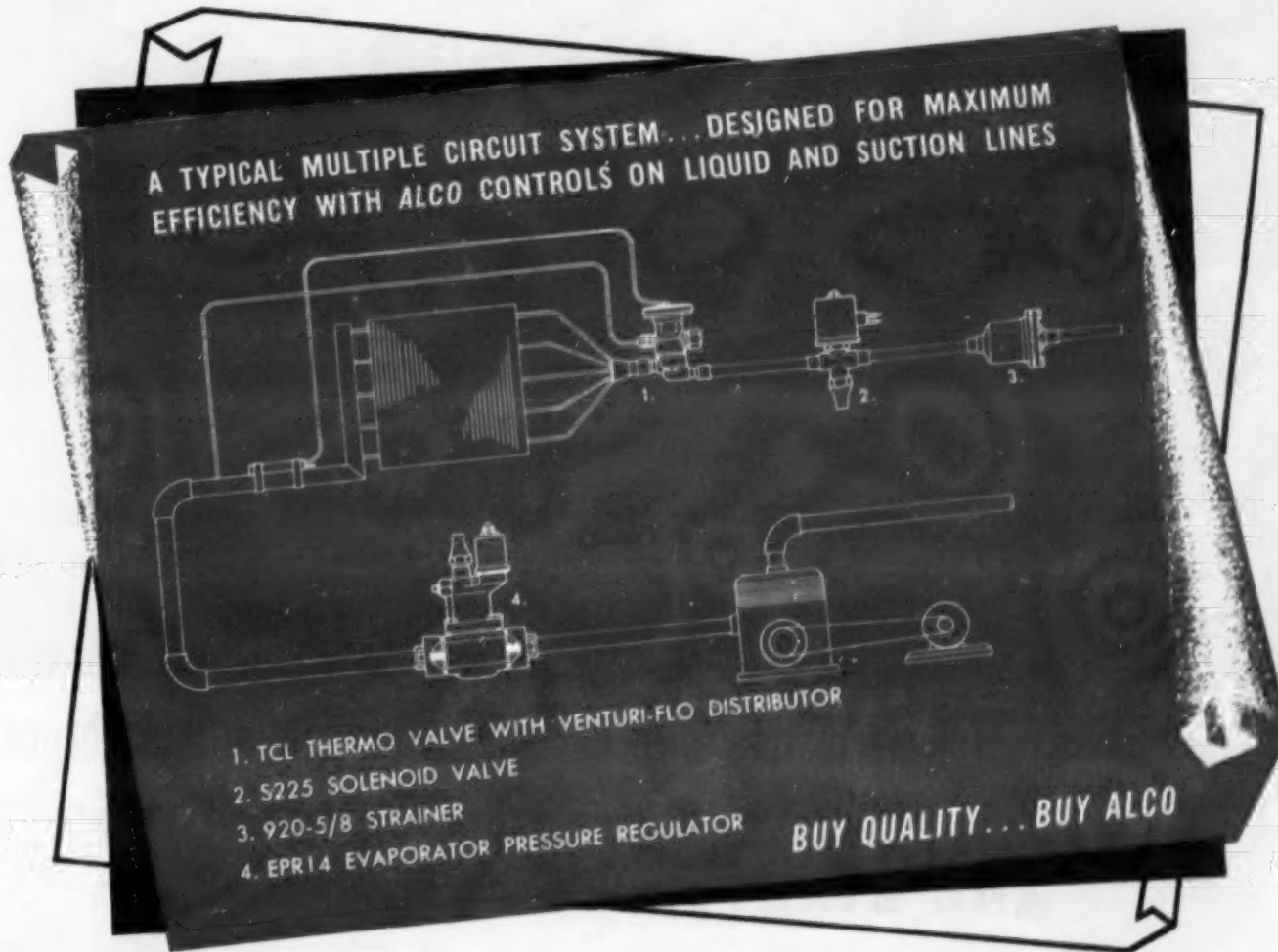
"Loose as a goose."

"Fishhooks in his pockets" (Yankee).

WM. HENRY KNOWLTON

Editor's Note: Mr. Knowlton died suddenly Oct. 7, not long after this was posted. So far as we can ascertain it may be the last thing this excellent writer ever penned.

ALCO MAKES every fluid control you need ...for any refrigeration system



The one complete line of refrigerant controls: Thermostatic Expansion Valves, Refrigerant Distributors, Solenoid Valves, Suction Line Regulators, Flooded Evaporator Controls and Reversing Valves

SEE YOUR ALCO WHOLESALE



ALCO VALVE CO.

851 KINGSLAND AVE. • ST. LOUIS 3, MO.

7042

Trend Seen as 1-Hp. Room Unit Sales Jump from 8% to 34% In Two Years



SALES MANAGER Irving Pernick, L & P Electric Co. uses block chart to show air conditioner sales by sizes, 1954-56. Chart shows 1-hp. is only size with continuing growth.

Table of Room Air Conditioner Sales by Sizes 1954-1956
(In Percentage of Total Sales)

1954			
1/3 hp.	1/2 hp.	3/4 hp.	1 hp.
6%	23%	62%	9%
1955			
4%	25%	43%	28%
1956			
0%	8%	58%	34%

NEW YORK CITY—The 1-hp. unit is the size of room air conditioner that has shown consistent gains in popularity in the past few years, and dealers in the northern part of the country who believe that this is due solely to the popularity of the 1-hp. unit in the south and southwest parts of the country "are missing the boat."

That was the point hammered home by Worthington Hipple and Robert Moore, Fedders-Quigan Corp. sales executives, in presenting the 1957 Fedders-Quigan Corp. line of air conditioners to dealers in the New York metropolitan area serviced by L & P Electric Co., Inc., which lays claim to being the "world's largest distributor of room air conditioners."

Pointing to figures which

show how the total sales of room air conditioner sales in the years 1954-1956 have been divided by sizes (see chart), the Fedders-Quigan representatives pointed out how sales of 1-hp. units jumped from 8% of the total in 1954 to 28% in 1955, and continued the rise again to 34% in 1956, despite a big resurgence in 3/4-hp. units resulting from the introduction of the 3/4-hp., 7 1/2-amp. unit.

It was also pointed out that the introduction of the 1-hp. 115-volt model will greatly speed the public's desire for the 1-hp. unit, because it can eliminate costly wiring problems. Figures were quoted to the effect that only 9% of the wired homes in the U. S. are wired for 220-volt or 230-volt current.

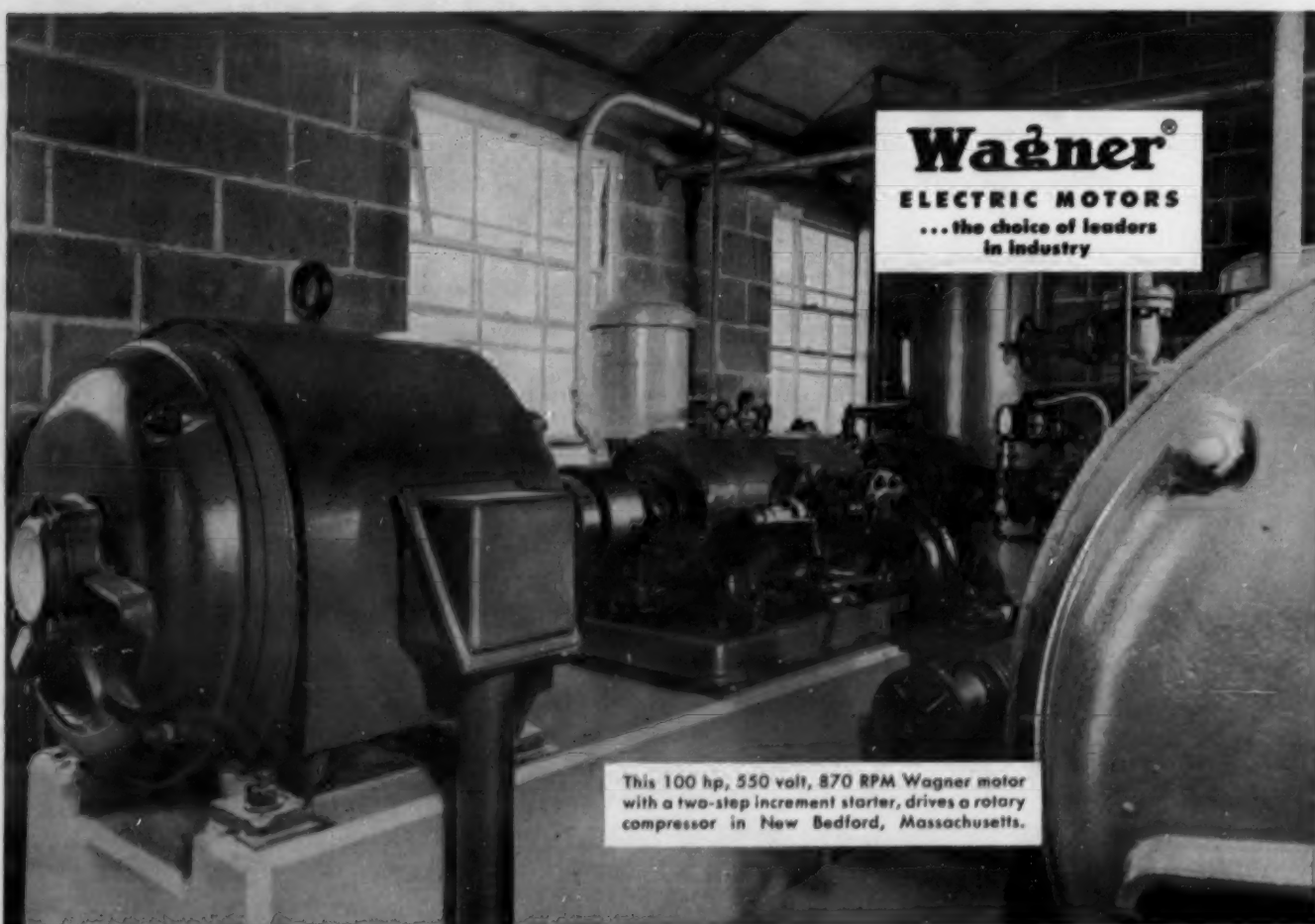
Commercial Market Continues To Grow

Dealers were also advised not to overlook the "commercial market" for room air conditioners which, it was pointed out, has always been a major market factor, and continues to be a growing one. Two new central-type systems which Fedders has introduced, the "Transomatic" and the "Adaptomatic" should help in tapping this market, it was stated.

In opening the meeting Louis Lidsky, head of L & P Electric, concentrated his remarks on the "future of the independent dealer."

"We are being subjected to a lot of discussion these days on such things as 'will the independent dealer be outflanked by suburban shopping centers of the big department stores, or by the continuing growth of the big discount houses,'" Lidsky stated in his opening remarks.

"The record that you dealers have compiled in the past two years—breaking every record for the sale of room air conditioners in the metropolitan area—is an answer to that, but both the distributor and the dealer (Concluded on next page)



This 100 hp, 550 volt, 870 RPM Wagner motor with a two-step increment starter, drives a rotary compressor in New Bedford, Massachusetts.

Start large polyphase motors with minimum line voltage disturbance

USE THE **Wagner** INCREMENT MOTOR AND STARTER COMBINATION

Here's a modern, economical, highly efficient way to start large polyphase motors—the Wagner Increment Motor and Starter "Package."

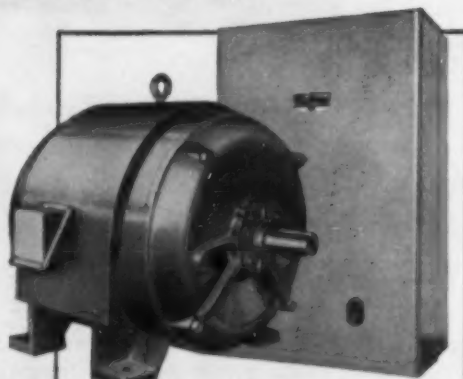
By reducing current drawn from the line on each point of the starter, the combination limits the inrush of motor current to values that are acceptable for the distribution systems of most power companies.

Voltage disturbances on the line are reduced because current taken from the line is not broken during the starting period—as it is when auto-

transformers or compensator type starters are used.

Wagner two-step increment motor and starter combinations are suitable for most applications. For installations where unusually low inrush of starting current is desired, Wagner can furnish three-step and four-step increment starters.

Your nearby Wagner engineer will help you select the increment motor and starter combination that meets your requirement. Call the nearest of our 32 branch offices, or write us.



Type RP polyphase motor in ratings to 400 hp with increment type starter



Wagner Electric Corporation
6441 Plymouth Ave., St. Louis 14, Mo., U.S.A.

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE BRAKE SYSTEMS—AIR AND HYDRAULIC

For more information about products advertised on this page use Information Center, page 16.

Tucapco
AIR CONDITIONER PROTECTOR



The NEW DOUBLE STRAP
AIR CONDITIONER

PROTECTOR

The only REAL fit for ALL model window air conditioners. • Only SIX sizes and stock numbers. • Attractive forest green fabric. • Clear plastic packaging with visible instruction sheet. • Inexpensive. • A fast and easy seller.

Contact

TULSA CANVAS PRODUCTS CO., INC.

P. O. BOX 2672

Tulsa, Oklahoma



DESCRIBING features of Fedders new "Transomatic" 2-ton room air conditioner is Sam Schwat of L & P Electric. Unit is designed primarily for small commercial applications.

Room Unit Trend-- Cory Names Will Wisler

(Concluded from preceding page) must continue to improve their services to stay out in front in a competitive fight that gets tougher all of the time.

Some of the things the distributor must do to help the independent dealer, Lidsky outlined, are:

Dealer Advertising Must Channel Queries

Advertising must mean real, productive advertising and promotion, and not an "under the table spiff." Advertising for the benefit of the dealer must be the kind that will channel inquiries to him from the area which he serves.

The distributor must treat dealers on a fair and equitable basis. There must be a "one price sheet" method of pricing with fair differentials between categories.

On the dealer side, Lidsky said, the following is important:

The dealer must live up to the provisions of the franchise agreement.

He must cooperate in the type of activity that is essential to the continued general progress of the business, such as in a warranty card program.

What Is Future Course For Independent Dealer?

Dealers must be sincere in their desire to have the business operate on an ethical plane. They shouldn't say "we have too many dealers" from one side of their mouth, and then go out and sell units to unauthorized outlets.

The independent dealer shouldn't try to beat the chain and discount outfits at their own game, but should concentrate their efforts on building a reputation for honesty, service, and working with the customer to give the customer exactly what he wants.

In a discussion of advertising and sales promotion plans, Stanley Fried, L & P advertising manager, declared that in 1956 Fedders room air conditioners were advertised more in New York City newspapers than the next 10 competitors combined.

He also drew the attention of the dealers to the new "spectacular" sign which Fedders has erected on Broadway, which is claimed to be the second largest on Broadway.

Service Firm Moves

DALLAS—Acre Service, air conditioning service firm, recently moved to a new 10,000-sq. ft. building in Brook Hollow Industrial District.

G. M. DeJarlais, owner, said the move doubled Acre's facilities.

Penn Room Unit Sales Rise 29% over '55 Period

JOHNSTOWN, Pa.—Despite a drop of 53% during August, air conditioner sales for the first eight months of 1956 were 29% ahead of last year in the territory served by the Pennsylvania Electric Co.

172 units were sold in the central and northwestern Pennsylvania area during August, nudging the eight months' total to 1,758 units.

For the eight months, clothes dryer sales jumped 73%, dishwashers 70%, automatic washers 43%, freezers 19%, ranges 16%, and conventional washers 14% over last year.

No comparisons were made on refrigerators. However, dealers in the territory sold 1,650 standard refrigerators and 1,006 combination refrigerator-freezers during August. For the eight months, they sold 10,782 stand-

ard boxes and 4,896 combination units.

Unit sales for other appliances were as follows:

Appliance	August	8 Mos.
Freezers	770	4,474
Ranges	1,065	7,961
Clothes Dryers	1,313	6,529
Automatic Washers	1,911	11,924

Fedders-Quigan Elects Williams Mfg. Vice Pres.

MASPETH, N. Y.—Howard G. Williams has been elected vice president in charge of manufacturing by the board of directors of Fedders-Quigan Corp.

With Fedders many years, Williams previously held the position of director of manufacturing.

The board of directors also elected Victor F. Melin as vice president in charge of finance.

Welbilt Stockholders (Except Hirsch Family) To Get 5¢ Dividend

MASPETH, N. Y.—Stockholders of Welbilt Corp., except members of the Hirsch families, will collect a dividend of five cents a share on common stock, payable Nov. 15 to holders of record Oct. 31, Alexander P. Hirsch, chairman of the board, announced recently.

Members of the Hirsch families hold 3,164,500 shares in the company while the public holds 1,033,507 shares.

Purpose of this waiver of dividend by the Hirsch families, Hirsch said, is to retain their portion of the dividend in the company for further expansion. The U. S. Treasury has ruled, he said, that this action will not constitute income to the Hirsch families or a gift to other Welbilt stockholders.



H. G. Williams

NOW

Make sure you get

TRIPLE-SEAL Tightness in every joint



"It's All in the Groove"



IMPERIAL Triple-Seal

HEAVY DUTY FLARE FITTINGS



Imperial Heavy-Duty Triple-Seal Flare Fittings have 3 seals to give you new extra protection against leakage.



LONG LENGTH DRYSEAL PIPE THREADS assure tighter joints—are especially valuable in providing additional takeup in reconnection.



PLASTIC CAPS on flared ends protect fittings during shipping and handling.

Assure extra protection against leakage

Here is how it works: When the flare nut is drawn up, the copper tubing is forced into the groove as well as against the two faces of the seat, making a tight, triple-seal joint. This feature provides extra protection against leakage; enables these fittings to hold higher pressures. Groove is included on all sizes 3/8" and larger.

In addition, Imperial Triple-Seal Heavy-Duty Flared Tube Fittings are heavier than ordinary flared fittings, have greater wall thickness and larger wrench flats. Elbows, tees and nuts are forged for greater strength. Designed for refrigeration applications.

Long Dryseal pipe threads on pipe thread ends assure tight joints — are especially valuable in reconnecting.

Use Imperial Triple-Seal-Flare Fittings . . . make sure you get this extra protection against leakage!

See your Jobber

Ask for Catalog No. 81

IMPERIAL

THE IMPERIAL BRASS MFG. CO. • 566 So. Racine Ave. • Chicago 7, Ill.
In Canada: 334 Laurier Ave., Toronto, Ontario

FITTINGS • VALVES • DRIERS • CHANGING LINES • TOOLS
FOR CUTTING, FLARING, BENDING, PINCH-OFF AND SWEDGING

Central Unit In Outdoor Housing with External Ductwork Air Conditions Club

VALDOSTA, Ga.—A new 40-ton year-round air conditioning system serving the Valdosta, Ga. Elks Club uses no floor space, is noiseless inside the building, and provides a flexibility of operation to meet varying needs of the fraternal group.

These advantages were realized by the use of a United States Air Conditioning Corp. 40-ton RK factory-assembled central station unit, placed in a specially constructed housing outside the building, reports William F. Applegarth, UsAirco representative in Atlanta.

The two-story Elks Club, erected shortly after the turn of the century, features one of the most impressive columned facades in south Georgia. When it was acquired by the Elks a

single-story addition, containing lodge, dining, and dancing room was constructed.

Prior to the installation of the new air conditioning system, only the bar was equipped with cooling, which was provided by an upright packaged unit, located in an excavated space beneath the building.

Initial plans for expanded cooling called for a built-up system using a remote outdoor condensing unit with overhead air handling units.

Concern for service problems and noise with such an arrangement led to the adoption of the remotely located self-contained UsAirco RK equipment. This contains in a single casing all of the components of a central air conditioning plant, including



REAR VIEW of Elks Club in Valdosta, Ga., showing specially constructed louvered housing which contains UsAirco 40-ton RK factory-assembled central station air conditioning unit. Use of external, insulated ductwork reduced wall-cutting within the building.

evaporative condenser for cooling water conservation.

Equipped with a heating coil, fed from an adjacent hot water boiler, the compact 40-ton central station unit delivers warm and cool conditioned air through insulated ducts from the outside equipment building to the

Club. The use of external insulated ductwork minimized wall-cutting within the building.

The UsAirco RK-40 is equipped with a three-step starter to reduce starting load and "Thermotrol" capacity control for low load efficiency.

The single unit serves bar,

ballroom, office, television room, ladies' lounge, recreation room, and entrance hall, on the main floor and card rooms, billiard room, and additional offices on the second floor.

For economy of operation a by-pass duct with damper shunts conditioned air from the ballroom when this large space is not in use.

The system was installed by T. J. Luke, Jr., contractor.

Viewers Learn About Heavens In Year-Round Conditioned Comfort

INDIANAPOLIS—The "heavens," as well as humans, are air conditioned at Butler university's new J. I. Holcomb Observatory and Planetarium.

Bryant "Command - Aire Twins" are used to provide year-round air conditioning for the planetarium wing.

The building is divided into an east and west wing, with the latter area containing the planetarium. A circular room, it seats 100 and is surmounted by a dome with a 12-ft. radius.

The inside surface of the dome is painted white and is bordered in black by an easily recognizable silhouette of the Indianapolis skyline. Concealed in this skyline are the heater and air conditioner outlets.

In the center of the room is a weird looking instrument that stands on a platform. This is the projector—something like a motion picture projector, but far more complicated.

When the room is plunged into darkness, the projector throws on the ceiling images of stars and planets. As these bodies "move about" in the heavens, a speaker explains their movements.

The observatory in the east wing has a projection room and lecture hall that is heated by a Bryant oil-fired forced air furnace. Here, Dr. Harry Crull, director of the observatory and planetarium, conducts university classes in mathematics and astronomy.

Dr. Crull's office, too, is heated and cooled by the same Bryant Twins that serve the planetarium wing.

The dome-shaped center of the building houses the largest telescope in Indiana, and possibly the largest in the nation intended primarily for public instruction.

Distributor Appoints Mazzeo Sales Mgr.

JERSEY CITY, N. J.—John H. Wister, vice president of York-New Jersey Distributors, Inc. here, has announced the appointment of Anthony G. Mazzeo as sales manager.

Mazzeo has been a salesman for Electric Products, Inc., sales agent for York-New Jersey Distributors, since 1947, with the exception of one year. That year he was a wholesale representative of Apparatus Distributors Div. of General Electric Co., according to the firm.

The company, under Mazzeo's sales management, will continue in the wholesaling of the complete York line of packaged air conditioning, refrigeration, and ice making equipment, it was stated.

... SO HALSTEAD & MITCHELL ENGINEERS DESIGNED

AIR-COOLED CONDENSERS FOR SIMPLER MULTIPLE CIRCUITING

Selecting circuits and manifolding when connecting several air conditioning and refrigeration units to a single remote air-cooled condenser can be expensive unless the air-cooled condenser is designed for the simplicity that means low labor costs.

That's why it's real news that Halstead & Mitchell engineers have devised a remote air-cooled condenser especially for extra-easy multi-circuiting. As costs come down, your sales go up.

The Halstead & Mitchell Air-Cooled Condenser has been designed with several *no-cost* extras like this easier multiple circuiting. Only Halstead & Mitchell offers, for instance, "Turbu-Flo"™ finned surface

which provides added heat transfer to give you *extra-safe* capacity ratings. No need to worry when you recommend H & M.

There are extra years of working life, too, for Halstead & Mitchell's superiority in cooling tower steel protection has been used to keep air-cooled condensers free from rusting. The tubing assembly is self-reinforcing, locking out vibration before it starts.

Lifetime ball bearings and deep-pitch, slow-speed fans make for quiet operation. It's the assured operation you look for when you select Halstead & Mitchell, manufacturer of the industry's broadest line of water-saving devices for air conditioning and refrigeration.

Write for Bulletin AC-100

HALSTEAD & MITCHELL • BESSEMER BLDG. • PITTSBURGH 22, PA.



Halstead & Mitchell

For more information about products advertised on this page use Information Center, page 16.

RCA's Improved Electronic Refrigerator Larger, More Efficient Than '55 Version



NOISELESS electronic refrigerator, with no moving parts, has been developed by the Radio Corporation of America. The new refrigerator has a 4-cu. ft. food storage compartment and a 30-cu. in. ice tray.

PRINCETON, N. J.—A larger and improved model of an electronic refrigerator, developed at the Radio Corp. of America laboratories, was presented to Brig. Gen. David Sarnoff, chairman of the board of RCA, to mark his 50th anniversary in the field of radio and electronics (as reported in the Oct. 15 issue of the NEWS).

The new electronic refrigerator is a larger and said-to-be more efficient successor to the experimental RCA electronic refrigerator announced by Gen. Sarnoff in January, 1955. It operates on principles identical to those of the electronic air conditioning system which was also presented and demonstrated to Gen. Sarnoff at the anniversary celebration (the air conditioning system was described in detail in the Oct. 15 issue of the NEWS).

Dr. E. W. Engstrom, RCA senior executive vice president, in discussing the refrigerator, pointed out that the new refrigerator operates on the principles employed in the electronic air conditioning system and the earlier RCA developmental electronic refrigerator.

Dr. Engstrom said:

"This type of cooling and freezing, accomplished electronically through panels which may be varied in size and arrangement, may be expected to lead to development of specialized refrigerators and coolers for the home, to portable refrigerators, and to novel cooling or freezing devices for many uses in science, medicine, industry, and defense."

Discussing the new refrigerator, Nils E. Lindenblad explained its various features this way:

Cooling in the 4-cu. ft. food storage compartment is achieved with an array of thermojunctions similar to those used in the air conditioning system. These are mounted directly on the outside wall of the aluminum cooling compartment, and they dissipate through air-cooled fins the heat drawn from inside the compartment. In the earlier RCA electronic refrigerator, the heat was removed by circulating water.

The ice tray, of 30 cu. in., rests on a slab of copper, to whose underside are attached

several thermojunctions. Larger cooling fins are arrayed around the ice compartment assembly for removing heat.

In contrast to the earlier electronic refrigerator, the larger improved type employs new thermoelectric materials that achieve a temperature drop almost double that in the previous model. At the same time, the capacity of the new refrigerator represents a substantial gain over the 1-cu. ft. cooling compartment and 8-cu. in. ice maker in the earlier model, it was noted.

Because of the improvement in thermoelectric materials, the new refrigerator requires less direct current power for operation than did its small predecessor, it was stated.

Whitmore Takes Norge Post In Muskegon Plant

CHICAGO — Appointment of Harland Whitmore as director of engineering for the Muskegon, Mich. refrigerator and freezer plant operations has been announced by Norge Div., Borg-Warner Corp.

V. C. Rice, vice president of manufacturing and engineering, said Whitmore will report to K. E. Anderson, general plant manager in charge of the Muskegon and Muskegon Heights refrigerator and freezer, aircraft, and factory parts service plants.

He was with Motor Products Corp., North Chicago, Ill.



Whitmore

BBDO Will Handle Consumer Advertising For All Philco Lines

PHILADELPHIA — Philco Corp. has appointed Batten, Barton, Durstine & Osborn, Inc., to handle advertising for its entire line of consumer products, it was announced recently by James M. Skinner, Jr., Philco president. The association will be effective Jan. 1, 1957.

Philco advertising campaigns which BBDO will help develop and place nationally include those for refrigerators, home freezers, electric ranges, home laundry equipment, and air conditioners.

Skinner said that the affiliation of Philco with one of the largest advertising agencies in the country presaged the opening of the most extensive advertising and promotional activity in the history of Philco Corp.

Ashburne Heads Sales For Kelvinator In Buffalo Territory

DETROIT — Appointment of John H. Ashburne as manager of Kelvinator's Buffalo, N. Y. zone has been announced by E. B. Barnes, Kelvinator general sales manager.



Ashburne

Ashburne succeeds Roland H. Davison, who has announced plans to retire at the end of this month.

He spent two years as manager of the Cleveland zone, and for the past several months has been on special assignment at the company's Detroit headquarters.

Davison joined the Kelvinator organization in 1934.



Bottled up by dirty tubing?

**GM STEEL TUBING
IS GUARANTEED TO MEET
YOUR SPECIFICATIONS!**

Wherever clean tubing counts, GM Steel Tubing assures trouble-free performance *all* the time. Four separate cleaning processes and painstaking inspections guarantee the cleanest tubing you can buy! The steel strip is dry steam-cleaned, then annealed in a controlled atmosphere. Tubing is next solvent-cleaned in preparation for the fourth step . . . inspection by analytical equipment capable of detecting even the smallest amount of residue. The result: clean tubing you can depend on . . . at typical GM Steel Tubing savings. Help eliminate costly warranty claims. *Always* specify rugged, reliable GM Steel Tubing!

First step toward the industry's cleanest tubing is dry steam-cleaning of the strip.



GM STEEL TUBING BY ROCHESTER

ROCHESTER
PRODUCTS
DIVISION OF
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CORPORATION
ROCHESTER N.Y.



They'll
Do It
Every
Time

by

Jimmy
Hatlo



Shall We Market, Merchandise or Sell? --Or Co-ordinate All Three Jobs?

Nowadays the Big Word in business is Marketing. That magic Word is supposed to answer all corporate problems, and remedy every industrial ailment.

Thanks to this new talisman the reorientation of any company to encompass the Concept of Marketing presumably will prevent ulcers, heart troubles, and automatically guarantee a 10% profit.

Exactly what is this new nostrum for all business ills? Is it a valid discovery, or is it quack medicine? Proponents and deponents disagree, naturally; and opponents are both grim and game. Of course, there are marketers and "marketers."

Obviously no phoneyed-up "marketing" program can MOVE all the products a specific factory can turn out, working at full capacity all the year around. When we say "phoney," we mean an ivory-tower program which disregards the unpredictability of human beings.

Reason: Mr. Consumer is King of our economy. And Mr. or Mrs. Consumer determines what things they'll buy, and how much money they will pay for them. Moreover, they insist upon being cantankerously human.

This sometimes annoying fact explains why a great many corporations are recruiting high-priced practical psychologists (most of whom are instinctive salesmen) for their shiny new Consumer Relations staffs. These veteran students of humanity are assigned to determine the "sex-appeal" of any product at the beginning of its production cycle—or even before it is produced—so as to checkmate embarrassing mistakes before they happen.

Marketing psychologists of that stripe start out with this premise:

Success isn't predicated upon subjective

reasoning (example: the boss's wife adores a certain gadget) or upon small samplings. It's what *thousands* of customers admire which, when produced and promoted, spells corporate progress.

Obviously, then, no sales campaign should be instigated until the customer's preferences have been investigated thoroughly.

This is a job which real *marketers* can do. And it's important.

The business "generals" (General Electric, General Motors, General Foods, etc.) also rely on time-tested SALESMEN who are humanly close to the People Who Buy. In addition to impersonal surveys from figure faddists, and advice from the new breed of business psychologists, the Generals trust the judgment of "human engineers" (*merchandisers*).

Merchandisers nowadays participate in major decisions relating to design, manufacturing, planning, scheduling, and inventory control—in addition to influencing sales, distribution advertising, promotion, and service policies.

More and more, merchandisers in large corporations are acting like presidents of small corporations. And please remember, these men have earned their new responsibilities by proving that they are superior salesmen.

It's a truism that all business is emerging from a production-minded economy into a salesminded "outerspace" potential of progress. Increasingly the gap will widen between the success achieved by a corporation organized on an old-time financial or production basis, and a company in which human sensitiveness to customers is recognized as pre-eminent.

That's why the merchandising function

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& REFRIGERATION **NEWS**

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'The Conscience of the Industry'

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VOLUME 79, No. 8, SERIAL NO. 1,440, OCTOBER 22, 1956

is growing so importantly in corporate direction stature.

Because profit margins are relatively miniscule nowadays, the tremendous investments required for corporate expansion certifies that management teams can't afford to risk a wrong guess.

Prior to 1950 it was conceded that an executive was a good man if he were right 51% of the time. Nowadays management must be right at least 80% of the time—and might be subject to serious criticism for a 20% error, according to the Harvard Business Review.

The Harvard article claims that normal time lag in correcting an impulsive mistake (or wrong guess) is so great that a corporation's competitive standing can be endangered seriously before its management and directors find out why.

How can disastrous errors in business judgment be prevented? Answer: Find out in advance what customers appreciate. And who can do that best? Salesmen! Men who know their customers best!

To be sure, the *marketers* can advise and forecast. The *merchandisers* can operate. But *Salesmen* provide the clues to success and progress.

Shall we "market" "merchandise" or Sell? Your last choice is correct, if you can't afford all three. Salesmen are much nearer your customers than are so-called scientific "marketers" or impersonal slide-rule-and-survey "merchandisers," even though the latter may be valuable.

Theory always takes a back seat to actual field experience. Univac never can compete with personal mutual understanding between seller and customer, or a reputation for trustworthiness in dealing with people.



MFRS'. ERRORS CAUSE WHOLESALER PROBLEMS

Westbrook Co.
San Antonio, Texas

Editor:

Please be informed that your editorial in the News of Sept. 10 was well worth close study, by every man in the industry.

Jobbers have a problem that has been increasing for the last

10 years and in the last two years has become almost unbearable, and that is the errors that we receive from at least 75% of our manufacturers, such as incorrect billing, incorrect filling of orders, no packing slip with merchandise, etc.

CLYDE B. WESTBROOK

HEALTH OF INDUSTRY EDITORIAL TIMELY

Mitchell Mfg. Co.
Chicago, Ill.

Editor:

Just a short note to say that your recent editorial on the "health" of the industry, par-

ticularly with regard to the type of people who are installing manufacturers' equipment, is a very timely and worthwhile piece of writing. I think it will do us all a lot of good.

ROBERT SHERIDAN

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Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, commercial and home refrigeration; manufacturing, contracting, distributing, retailing, and servicing. Read the Industry's newspaper for profit every week. Only \$6.00 per year, 52 issues (U.S. and Canada). Foreign: \$10.00 per year.

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Company

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IMPORTANT: Company's Type of Business

10 Min. Cycling Described as Ideal To Control Temperature, Relative Humidity In Modern Residential Air Conditioning

BOSTON — Present thermostats designed for residential cooling have a time pattern of 10 minutes on and 10 minutes off, indicates R. M. Locke, market manager of residential air conditioning controls for Minneapolis-Honeywell Regulator Co.

In a discussion of modern trends in such controls before the regional educational forum held here by the Refrigeration Service Engineers Society, Locke explained that recent studies show 10-minute cycling gives better control over temperature and relative humidity under partial load conditions than a longer cycle does.

This has to be done at temperatures of 76° F. or below.

Predicting sales of 200,000 residential air conditioning systems this year and 300,000 in 1957, Locke traced the growth in this field over the past few years as it affected controls.

"People won't accept the controls they used three years ago," he commented. "The controls today are designed specifically for residential air conditioning instead of being adaptations of commercial controls."

Among the controls needed for residential systems, Locke said, is a low pressure control to prevent freeze-ups resulting from dirty filters. The latter are quite common, he declared.

Many manufacturers, he pointed out, also have an anti-slugging setting on the low pressure control.

Touching on the question of intermittent vs. continuous fan operation, Locke said that "the stuffy feeling which develops when the blower stops is apparently worse than what increase in relative humidity takes place if the fan continues to run with the compressor off. So you need a fan relay in order to permit selection of fan operation at the thermostat."

In certain areas of the country where it's hot during the day but cold at night, there is demand for automatic change-over from cooling to heating, which requires a different type thermostat, Locke also said.

"Next addition to the thermostat will permit remote resetting of overloads and pressure switches at the thermostat instead of having to go to the unit itself," he added.

This, he explained, is especially important for those systems having a remote condensing unit.

In this connection, however, Locke commented that "packaged air-cooled units are the coming trend. No one is doing a good job of installing lines for remote units."

As for service on controls, he said that controls rarely fail in themselves, but very often they are not installed or wired properly.

Central panels largely pre-wired at the factory greatly simplify residential air conditioning system wiring, he pointed out.

"Some field wiring of installa-

tions has cost as much as \$175," he said. "This can be avoided with central panels."

Chief thing in servicing, according to Locke, is to follow a step-by-step procedure with the wiring diagram in order to check the operation of each control.

General Controls Expands Seattle, St. Louis Quarters

GLENDAL, Calif.—General Controls Co., maker of automatic controls, recently announced expansion of its facilities in Seattle and St. Louis.

New offices and warehouse for the firm's line of residential, industrial, and aircraft controls in Seattle are located at 925 Westlake Ave. N. William R. Nason is in charge.

New and larger warehouse facilities in St. Louis branch territory are situated at 1330 Hampton Ave. Joseph S. Fillo is manager.

Torrington Enters Residential Field With Blower Line

TORRINGTON, Conn.—Expansion of The Torrington Mfg. Co.'s product line into assembled blowers and large blower wheels for residential air conditioning and warm-air treating was announced at a recent sales meeting by Andrew Gagarin, president.

The newly-designed Torrington blower units will be available initially in six sizes, with both belt and direct drive, which will be produced at each of the company's three manufacturing divisions in Torrington, Van Nuys, Calif., and Oakville, Ont., Can.

"The Torrington Air Impeller Engineering Laboratory will be in a position to provide extensive engineering and testing services in applying blower

units in residential air-moving systems," Gagarin stated.

A major construction feature of all blower sizes will be the recently-developed Torrington "Center-Lock" wheel, it was pointed out. Torrington has been manufacturing blower units and large blower wheels in Van Nuys for six years. This new Center-Lock wheel will become part of the present line.

Bailey Heads Marketing At Iron Fireman Mfg.

CLEVELAND—Appointment of D. Paul Bailey as marketing manager of Iron Fireman Mfg. Co. was announced recently by Lewis J. Cox, vice president and manager of the heating and cooling division.

Bailey joined the heating and cooling equipment manufacturer in 1949. He was named assistant sales manager in 1953 and, for the last year, has been sales manager for Ohio-Michigan.

don't be **Saddled**
by 'under-par'
air conditioning...



— Janitrol —
offers you a quality
line designed to sell!

Want to eliminate expensive service call-backs and complaints? Want to keep profits from doing a disappearing act? Switch to Janitrol Summer Air Conditioning, the line that stands out for quality performance, easy installation and freedom from service headaches!

The complete Janitrol line will help you sell more jobs and increase your profits. Why? Because it gives you exclusive sales features that guarantee performance and long-life your competition can't touch. Every Janitrol installation promptly goes to work to help sell another!

There are "packaged" Janitrol water-cooled and waterless conditioners for every residential and light-commercial building and remodeling need. Models for use with existing warm air furnace or for independent operation. Combination cooling and heating units you can feature for year 'round comfort.



and Janitrol gives you plenty of merchandising and advertising support, including hard-hitting ads like these in leading consumer magazines, and those your builder-prospects read! Ask your Janitrol representative for the profit-making story on Janitrol's complete air conditioning line right away!



New!

YEAR 'ROUND SALES-MAKER **Janitrol**

Win-Summatic

YEAR 'ROUND CONDITIONER

Combines clean, thrifty gas heating and powerful waterless cooling in a single "package" that fits in little as 4½ sq. feet of floor space. Easily installed in any home—upflow and downflow models. "ADD-ON" Cooling Option increases sales potential! Unit may be installed for heating only, with evaporator cabinet left empty for addition of cooling at buyer's option.

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begin with...

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HEATING... COOLING

JANITROL HEATING & AIR CONDITIONING DIVISION
SURFACE COMBUSTION CORPORATION • COLUMBUS 16, OHIO
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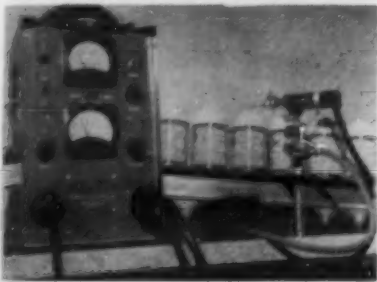
Complete line of gas and oil furnaces, unit heaters, conversion burners, water-cooled and air-cooled summer conditioners, combination heating-cooling conditioners.

**AIR-CONDITIONING
MOTORS
NEVER BURN OUT
when protected with**



**MECHANICAL INDUSTRIES
PRODUCTION COMPANY
223 ASH STREET • AKRON, OHIO**

G-E Adapts Leak Detector for Assembly Line



—KEY NO. F-1040—

SCHENECTADY, N. Y.—Automatic, high-production leak testing at low cost is now possible with a modification of its type H-1 leak detector, according to General Electric Co.

The hand-held "gun" of the standard model has been replaced with a fixed head for attachment to the conveyor belt of mass-produced products.

"Minute but costly leaks can now be caught on the assembly

line in articles ranging from bug bombs to beer barrels," G-E said. "In general, any container which can hold a small quantity of halogen under pressure is a suitable application.

"Conveniently mounted, the small fixed-head houses the sensitive element. An aspirator pump mounted near the fixed head, provides the air-sample flow through the element.

"Leak defects are indicated visually and/or audibly. By auxiliary means initiated at the control box it is possible to remove defective items automatically.

"Sensitivity of the type H-1 fixed-head leak detector is 1 3 p.p.m., and response time is rapid—½ in. per second or better, depending on the application."

Power requirements are 120 volts, 60 cycles, 85 watts, 0.96 P.F. Net weight of the detector unit is 2 lbs. and the control unit weighs 18 lbs.



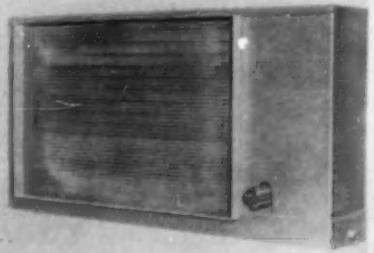
Scissors Cut Natural Hair Filter Pad

—KEY NO. F-1042—

HOUSTON, Texas—A new product claimed to combine advantages of natural hair as a filtering medium with strength and durability was recently offered here by Time Tested Products Co.

The 15 by 24 by ½-in. uniform density pad can be cut with ordinary scissors to permanently fit any room air conditioner, the company stated. It can be washed clean with water and detergents.

The "Filtr-Aire" pad is "Saran" treated and will surface its load to put damper on air flow.



Home Furnace Duct Evaporator Offered

—KEY NO. F-1043—

PITTSBURGH — Halstead & Mitchell is offering a new line of residential evaporators to be used with hot air systems in the ductwork of home furnaces.

Capacities of these Halstead & Mitchell residential evaporators range from 24,000 through 60,000 B.t.u. per hour. "Turbu-Flo" fins increase air turbulence to provide an added safety factor measure of heat transfer.

Capacities are based on standard conditions of 80° dry bulb and 67° wet bulb entering air and 40° F. suction at 500 f.p.m. Turbu-Flo fins are aluminum, and are mounted on ½-in. o.d. copper tubing on 1¼-in. centers.



- ◆ Extra-large storage
- ◆ Safety from freeze-up
- ◆ Fast hourly recovery
- ◆ 20-year life construction

Capacities: 5 to 500 g.p.h. Storage: 2 to 240 gals.

Water coolers for all uses factory-packaged with your condensing unit. Write for literature.

FILTRINE MFG. COMPANY

218 W. PROSPECT ST. • WALDWICK, N. J.

Special Events Drink Dispenser Is Portable

—KEY NO. F-1044—

ALHAMBRA, Calif.—Neilson Equipment Co. here announces the release of its new product known

as APS 200 "Mobile Special Events Attendant Unit," which is available for either a quarter keg of draft beer or 5 or 10-gal. cans of premix soft drinks.

It also has space on the inside to accommodate gas cylinder, regulator, and waste receptacle. Cooling is accomplished by the

use of ice in the upper chest on to a cooling plate or coil. Ice capacity is sufficient to take care of either 10 gals. of premix soft drinks (which is approximately 220 6-oz. drinks) or to handle refrigeration for a quarter keg of draft beer, according to the company.

"This unit was designed specifically for special events such as parades, fairs, athletic events, etc.," the company noted. "It is also being used extensively for draft beer at special parties held around swimming pools of large hotels, resorts, and clubs where mobility is an essential factor."

Lake Announces Improved 'Pipetite-Stik'

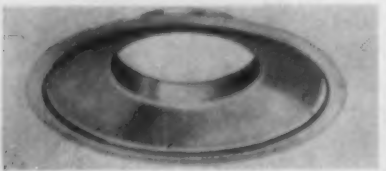
—KEY NO. F-1045—

CHICAGO—"Pipetite-Stik," a new package wrap, and comes in pipe joint compound made by new one and three dozen self-Lake Chemical Co. here has been display counter boxes.

improved by boosting the maximum temperature rating to 750° F., pressures to 5,000 p.s.i., has a

It can be used on plastic or metal threads.

Ring Cuts Ceiling Diffuser Mounting Costs



TITUS plaster mounting ring has been designed to cut mounting costs and prevent diffuser from sagging away from ceiling.

—KEY NO. F-1041—

WATERLOO, Iowa—A new plaster mounting ring that is claimed to cut ceiling diffuser flush mounting costs up to 80% and prevent diffuser from sagging away from the ceiling has been announced by Titus Mfg. Corp. here.

The new Titus model PMR plaster mounting ring serves as a combination ceiling diffuser mounting ring and plaster ground and can be used for flush mounting Titus ceiling diffusers on all types of ceilings, the company further stated.

It installs in two steps: (1) Slip the neck of the plaster mounting ring over the duct, and (2) secure it to the lathing channels or ceiling construction being used with two screws.



NECK of ring slips over duct, then is secured to lathing channels.

After plastering is finished mount Titus ceiling diffuser to PMR with three screws, it was added.

When the Titus plaster mounting ring is used there are no holes to cut in the plaster, no trimming or patching to do. The Titus PMR automatically provides the correct size and position of ceiling opening and centers diffuser to it, the company said.

Diffusers mounted to Titus plaster mounting rings will not sag away from the ceiling, it is said, because weight of diffuser is supported by ceiling framework instead of just depending on the duct.

Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised

(list name, page, and issue date)

What's New or Current Literature Available

Key No.	Key No.
Key No.	Key No.
Key No.	Key No.
Key No.	Key No.
Key No.	Key No.

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(Please Print)

Company

Street

City Zone State

Type of Business

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Readers Service Dept.

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AND LA CROSSE GIVES YOU MORE OF EVERYTHING YOUR CUSTOMERS WANT MOST IN COMMERCIAL REFRIGERATION EQUIPMENT



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No Finer In American Taste ... A Restaurant Meal!

EXPORT OFFICE:
80 BROAD ST.
NEW YORK CITY
CABLE: EXIMPORT



4 Ft. Soda Fountain Service Available

—KEY NO. F-1046—

CHICAGO—A complete soda fountain service in 4-ft. length including 10-gal. ice cream storage capacity was recently made available by the Bastian-Blessing Co.

A combination of stainless steel bobtail "Soda Unit" with compressor installed and a matching stainless steel ice cream cabinet which can be placed on either side of it, the unit is equipped with "Super-Soda" draft arms with lucite nozzles, the firm stated. The cold storage compartment and syrup rail are stainless steel lined.

Four syrup pumps and jars and four crushed fruit jars provide for a variety of flavors, it was added. The equipment has a seal of approval from the National Sanitation Foundation.

The matching stainless steel ice cream cabinet of the unit has drip-proof lids and a rounded front edge.

Offer Plastic Dome for Ice Cream Machines

—KEY NO. F-1047—

NEW YORK CITY—Development of a plastic insulating dome for the "Electro Freeze" soft ice cream machines manufactured in 1955 and 1956 was announced recently by Charles Erickson, president of Port Morris Machine & Tool Works, Inc.

This dome increases the efficiency of the machine by reducing the cycle of the compressor as well as reducing any melt down on the freezer head, Erickson said. It is particularly effective in locations where wind hits the head of the unit.

Portable Radiant Heater Announced

—KEY NO. F-1048—

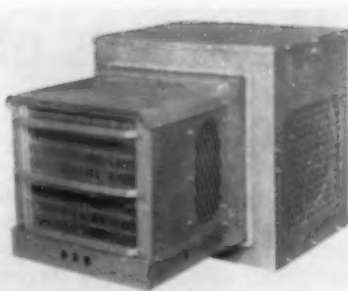
ROCHESTER, N. Y.—Electro-mode Div., Commercial Controls Corp., recently announced a portable model of the firm's radiant circulating electric heater.



Made with "Tri-Core" heating element, heat is radiated directly into the room from the two forward sides of the element, and the polished reflector radiates heat from the third side, the company said.

Light in weight, the unit can be carried from room to room, wherever warmth is desired. Automatically controlled by a built-in thermostat, the unit is made in capacities for big and small rooms.

A grille shields the heating element and provides protection.



Packaged Cooler Unit Converts Old Boxes

—KEY NO. F-1049—

JACKSON, Mich.—A new packaged cooler unit was recently announced here by Taylor-Burch Refrigeration Products, Inc.

No special tool or technical knowledge is required to install or convert old-type ice boxes and counters into modern refrigeration units, the company claims.

Interchangeable, Taylor-Burch packaged cooler units can be installed in multiple units in any combination to handle larger cool-

ing capacities, it was pointed out.

No water is used in the automatic defrost, air-cooled units. No service is said to be required on the hermetically sealed system.

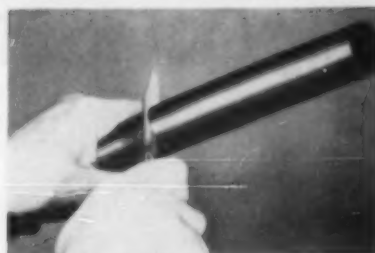
Polyethylene Plastic Pipe Introduced

—KEY NO. F-10410—

NEW YORK CITY—A new non-toxic, pressure-proved, general-purpose flexible polyethylene plastic pipe was recently introduced by American Hard Rubber Co.

Approved for piping water and other fluids for human and animal consumption, the pipe features low cost, ease and speed of installation, and permanence, the company claims. It is lightweight, can handle water or corrosive solutions at normal temperatures.

Of smooth bore to reduce resistance, lime and algae cannot adhere to the inside of the pipe, the company continued. Packaged in long coiled lengths, the pipe is said to reduce fitting time.



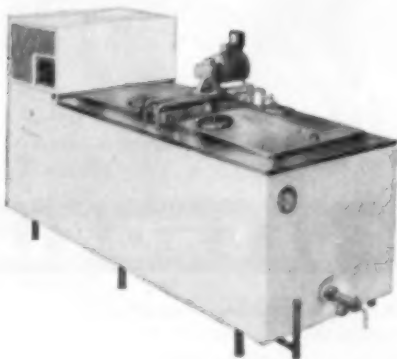
"Supplex" pipe is available in sizes of 1/8, 1/4, and 1 in. in 75-lb. pressure-rated series, and sizes of 1 1/4, 1 1/2, and 2 in. for jet well installations. Pipe may be used at temperatures from 50° below to 125° above zero, the company pointed out.

WILSON BULK MILK COOLERS LEAD THE WAY IN THIS EXCITING NEW FIELD



ASK ANY DAIRY FARMER...

THIS COOLER IS HOT!



"If you can't lift out the cooling system, it's not a good cooler." That's what dairy farmers are saying. They got the idea from Wilson. Because you can lift out the cooling system of a Wilson bulk cooler—and that's what's making Wilson the hottest seller in this booming bulk cooler business.

Farmers get better, safer milk cooling. They get faster and lower-cost service. And they get positive protection against power failure. With the refrigeration unit lifted out, block ice or well water can keep milk cool till power comes back on. No other bulk

cooler gives milk protection like this.

Dealers get faster sales, surer sales, and easier follow-up. It's a lot easier to convince a customer when you've got a red-hot sales feature like this. Not only that, installation costs less, service costs are at rock bottom.

Dealers get help from Wilson in selling too, because Wilson is not only Number One in bulk coolers, it is Number One in advertising, sales helps, and promotion. Get the full story so you can get on the bulk cooler bandwagon. Mail in the coupon today.

INSTANT-ICE MACHINES

SOME CHOICE TERRITORIES OPEN!

The most complete line . . . 14 MODELS!

Production ranges from 600 lbs. to 5000 lbs. per 24 hours. Air-cooled, water-cooled. Self-contained and remote models.

THE HIGHEST QUALITY LINE!

Precision-built . . . sold on quality, convenience and dependability.

WRITE NOW! for complete details . . .

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WILSON

BULK MILK COOLERS

WILSON REFRIGERATION, Inc.

Smyrna, Delaware

A Division of Toler Refrigeration Corporation

See us at the Dairy Industries Supply Association Convention in Atlantic City Booth F-11

Wilson Refrigeration, Inc., Department R-4, Smyrna, Delaware
Rush information on Wilson's NEW Model Bulk Coolers.

Name _____
Company _____
Address _____
Post Office _____

'EggZaC' Refrigerated Case Displays Eggs at Proper Temperature, Humidity for Quality

Retail Cabinet Is Outgrowth of Walk-In Refrigerator for Use by Egg Farmers

ANAHEIM, Calif.—Refrigeration engineering has come to the rescue of the egg! . . . and the food retailer who sells them. Temperature is not enough. The egg is a delicate piece of hen fruit. Along with coolness it must have plenty of moisture. Otherwise, "improper holding conditions," and the quotes are from the Poultry Division of the Agricultural Marketing Service, U. S. Department of Agriculture, "may cause an egg to drop in quality from AA to C Quality in a few days."

Under Proper Conditions Eggs Retain Quality For Many Months

On the other hand, the Poultry Division hastens to add, "eggs have been successfully held under proper conditions for several months and still retain sufficient new laid quality to be classified as A Quality."

It has been difficult for the food retailer to reproduce proper holding conditions for eggs.

Zero Cold, Inc., found this out in its contacts with retail food markets over a period of 10 years, manufacturing and sell-

ing walk-in and reach-in glass door refrigeration cases.

Zero Cold has set about to meet some of the special needs of the food industry. Observing customers juggling their food purchases as they opened refrigerator doors, Zero Cold developed and began selling some seven years ago their E-Z-C super walk-in reach-in boxes.

To quote Emerson E. Burgess, president and general manager of Zero Cold:

Walk-In Equipped With Self-Closing Door

"We used a self-closer door so people could buy with both hands!"

"At the same time we increased the size of the door from the old 23-in. by 53-in., to our popular new size of 29 inches by 69 inches."

"To provide plenty of refrigeration while folks had refrigerator doors open as they bought with both hands, we over-coiled and over-compressed."

Zero Cold had its ears open as their food merchant customers complained about "cold storage eggs."

The story ran something like this: get too long on cold storage eggs and have trouble moving them against more expensive fresh eggs, even though fresh eggs were in short supply at certain seasons.

Cold storage eggs were sensitive, picked up off-flavors, lost weight because they dried out, and because they dried out dropped in quality rating, and therefore in market value.

So Zero Cold applied itself to the cold storage egg problem. Months of design work and testing brought forth the "E-Z-Stor" egg storage cabinet, trade marked "Pent(H₂O)use" with "Wetemp" coil.

The "E-Z-Stor" is a walk-in cabinet, principally designed for the use of the egg farmer. Right after the eggs are laid, the cabinet enables the egg farmer to have proper humidity and temperature for egg storage.

Many "E-Z-Stor" cabinets have been sold direct to egg producers. One of the world's largest egg processors has purchased over 500 cabinets for the use of egg farmers who sell to them.

The cabinet went on the market in December, 1954, less than two years ago, and is now an established item in the hands of modern egg farmers.

Seemed Logical To Give Retailer Same Humidity And Temperature Control

To Zero Cold it was logical to extend the same humidity and temperature controls for proper egg refrigeration to retail food markets.

A long period of design work and testing by Refrigeration Engineer Otto La Grou, director of engineering for Zero Cold, brought forth two "EggZaC Wetemp" egg display case models.

Zero Cold is swinging into



FIRST to see this new EggZaC Wetemp case were the delegates to the recent 57th annual convention of the California Grocers association at Coronado, Calif. Here on the patio in the "Food Fixture Fair" exhibit at Hotel del Coronado, the model 105, which holds 22 cases of eggs, is hooked up to a compressor and demonstrated by Zero Cold's Sales Manager W. H. Dial, and Director of Engineering Otto La Grou.

mass production in its new 32,500-sq. ft. plant on the Freeway, Anaheim, Calif.

Egg temperatures are normally kept between 50 and 55° F. Moisture conditions should be maintained between 80 and 90% relative humidity.

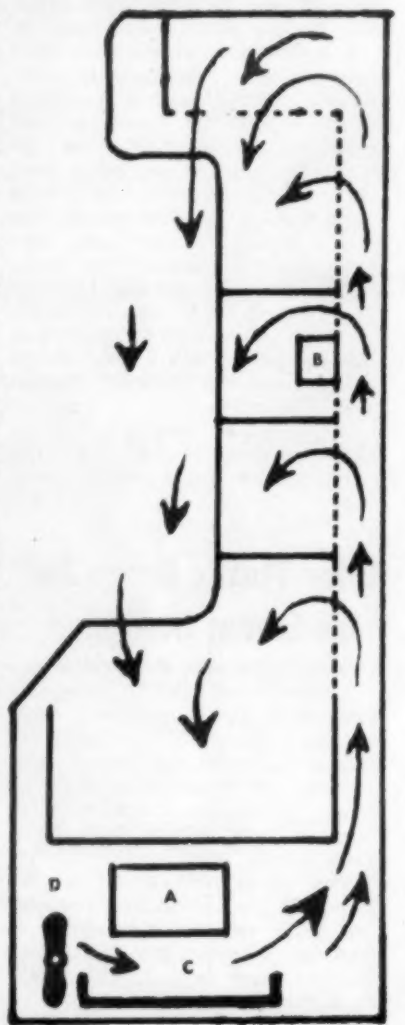
It is this correct humidity in "EggZaC" cases that prevents a drop in the grade of eggs while they are in the retail store.

The larger model, No. 220, holds 22 cases of eggs, put up in retail cartons. It is 8 ft. long and 82 inches high. It should be hooked to a drain. This case is of the remote type.

Number 220 requires in most cases a 1½-hp. air-cooled condensing unit. In extra duty load and ambient conditions, a 2-hp. air-cooled condensing unit is normally used.

The smaller and portable model, No. 105, holds 10½ cases of eggs, put up in retail cartons. It plugs into a 115-volt outlet and needs no drain con-

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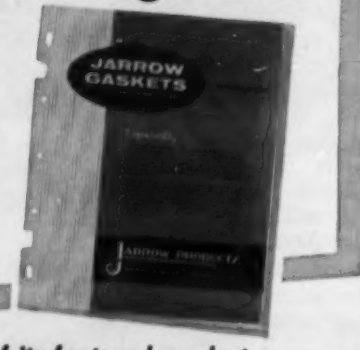


RIGHT: Diagram shows how the new EggZaC case works to maintain humidity and temperature: at desired setting Wetemp coil (A) operates, temperature and humidity drop until humidistat (B) heats metal strips in pan (C) and vapor moisture is distributed by fan (D).

Everything in door gaskets at your finger tips!

CATALOG C-300

Contains the latest in door gaskets for every refrigeration application. You'll want to keep this complete guide handy constantly.



Here are a few of its featured products:

PLASTIC

JARENE-B . . . the ideal, tough, flexible vinyl plastic extruded material that can't crack, check or oxidize—highly grease resistant—long wearing—easily cleaned—any shape to exact specifications. Present applications include refrigerator, freezer, display case gaskets, beverage tubing.

V-1212 . . . same tough, flexible vinyl outer jacket as JARENE-B over resilient sponge rubber. Used on refrigerated display cases—weather-exposed freezer doors—refrigerated truck bodies—refrigerated and non-refrigerated railroad cars and others.

RUBBER



EXTRUDED RUBBER . . . finest quality for long, efficient service. Many different cross sections available from stock dies. SPONGE RUBBER . . . molded with Neoprene outer jacket. Available in double cushion, single cushion and flat strips. RUBBERIZED FABRIC . . . with either cotton or sponge rubber cushion; open or closed edge. Double-stitched flange for rugged wearing resistance.

Jarrow rubber or plastic gaskets can be custom-made to your exact specifications. Send us your blueprints or consult with our experienced engineers.

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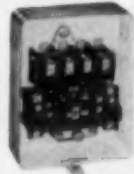
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Door Gasket Specialists for Nearly a Third of a Century
420 NORTH LA SALLE STREET • CHICAGO 10, ILL.

QUALITY MOTOR CONTROLS

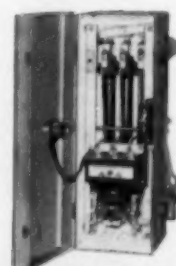
Allen-Bradley QUALITY . . . in design and workmanship . . . guarantees A-B starters will give millions of trouble free operations. Their silver alloy contacts eliminate contact maintenance, and two thermal overload relays prevent motor burnouts. Write for the Allen-Bradley Handy Catalog.



The Sign of QUALITY MOTOR CONTROL



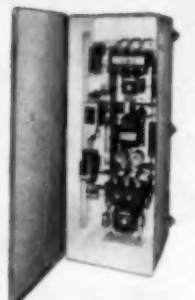
Bulletin 709 across-the-line solenoid starter



Bulletin 640 manual resistance-type starter



Bulletin 646 manual autotransformer starter



Bulletin 742 automatic resistance starter

and ACCESSORIES

Allen-Bradley offers a complete line of QUALITY control accessories for air-conditioning and refrigeration systems.



Bulletin 837 temperature control



Bulletin 836 pressure switch



High and low pressure cutout



Bulletin 849 pneumatic timer

Allen-Bradley Co.
1313 S. First St., Milwaukee 4, Wis.
In Canada—
Allen-Bradley Canada Ltd., Galt, Ont.



Refrigerated Egg Storage--

(Concluded from preceding page) nection. It pulls an electrical load of approximately 12 amperes.

California Retail Grocers Get First Look at Case

First showing of the new "EggZaC" case was at the California Retail Grocers convention just concluded in Coronado. Model 220 was hooked to a compressor and used for a live display.

This month the first cases were going into use, or were being installed, in supermarkets in southern California.

The larger model 220 has been purchased by Alpha Beta at Whittier and Covina, All American at Buena Park, Walker's Market at Santa Ana, and Piggly Wiggly at San Diego.

Model 105 has been purchased by All American at Downey, U-Tel-Em at Orange, Bob's Market at Brea, Anaheim, Buena Park, and Whittier, and Penny Market at Fullerton.

National Supermarket Chain Now Testing Cabinets

A large national supermarket chain is now testing the larger model in its research laboratory in preparation for installation in all its stores.

Zero Cold describes "EggZaC" cases as the first high refrigerated wall shelving offered for retail food markets.

Temperature is maintained with not over 2° variation from top to bottom.

During the developmental period Zero Cold used test models with adjustable baffles so

they could perfect and design models with uniform temperature distribution for manufacture.

The models being manufactured have this carefully designed duct chute which is the back wall of the case.

Through experimentation the correct amount of air handled was accurately measured to maintain not over 2 degrees of variance throughout the case.

Engineer Explains How Wetemp Cabinet Works

Here is the description by Director of Engineering Otto La Grou and his crew of how "EggZaC Wetemp" egg cases work.

"The adjustable thermostat turns on the refrigeration at the desired temperature and the Wetemp coil goes to work."

"In the temperature range needed no thermostat was being made. A Ranco thermostat is being used which has been made to the specifications of Zero Cold for these "EggZaC" cases.

"As the temperature drops, so does the humidity, and at the critical level the humidistat turns on an electric current."

The humidistat is a standard make with a high humidity range. The humidistat used employs the human hair element which gives close control of humidity in the case.

"The electric current heats metal strips that lay in the condensate pan. Water is collected in this pan from the condensation of the coil. The metal strips heated in this water cause a natural vapor."

"A large, silent fan distributes this vapor-moisture, as well as the refrigerated air, throughout the bottom of the case and up the hollow back."

"The humidified, refrigerated air passes through hundreds of small holes in the back wall and surrounds the merchandise with ideal atmospheric conditions for eggs."

"When the correct temperature is restored, the refrigeration unit turns off. Then, as the air is filled with moisture, the humidistat turns off and one full cycle of the EggZaC refrigerating-humidifying operation is complete."

Los Angeles Builders Guide Offered for '57

LOS ANGELES—The 1956-57 edition of the Los Angeles Annual Builders Guide was recently announced by the Inter-State Education Association.

This latest edition includes many new and revised sections of the Building Code and other changes, it was noted.

Also dealt with in the publication are zoning plan, building lines, plumbing, heating, and refrigeration codes. A separate electrical code is available.

Traveling Showrooms Take Ice Machines Direct To Customer

Fleet also Serves as Mobile Sign Boards

TAMPA, Fla.—Two "traveling showrooms" that bring "Scotsman" ice machines direct to the prospect are now being used by Waters Equipment Co. here.

Panel trucks carry representative models of both "Super Cuber" and "Super Flaker" machines, it was reported.

This American Gas Machine Co., Div. of Queen Stove Works, Inc. distributor has both truck showrooms at work in its territory which includes sales and service outlets in Daytona Beach, Gainesville, Orlando, Fort Myers, St. Petersburg, Sarasota, and Perry, Fla.

Decorated with a Scotsman ice cube cartoon character, the white trucks carry advertising



PART of Waters Equipment Co.'s fleet, which takes "Scotsman" ice machines right to the customer for demonstration, is shown in front of the distributorship. The vehicles also serve as effective traveling sign boards.

messages on all sides. The two offers convenience to prospects who cannot visit regular showrooms.

Displayed by this method is the full Scotsman ice machine line including eight cube ice machines which produce 110 to 500 lbs. of solid, round cubes daily.

If your prospect seems cold

suggest time payments

to close the sale

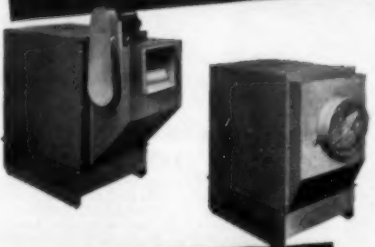


TODAY the demand on working capital is heavy. Preferring to keep their cash and usual lines of credit intact for current operations, more and more of your prospects will want to finance their purchases of equipment. Be sure your proposals are complete by including information about buying on the nationally

popular COMMERCIAL CREDIT PLAN. To discover how COMMERCIAL CREDIT's tailor-made Refrigeration Financing Plan can help you build prestige and close sales, call our office in your city or write COMMERCIAL CREDIT CORPORATION, 14 Light Street, Baltimore 2, Maryland.

COMMERCIAL CREDIT CORPORATION • A service offered through subsidiaries of Commercial Credit Company, Baltimore... Capital and Surplus over \$190,000,000... offices in principal cities of the United States and Canada.

LARKIN MEANS EFFICIENT DESIGN....



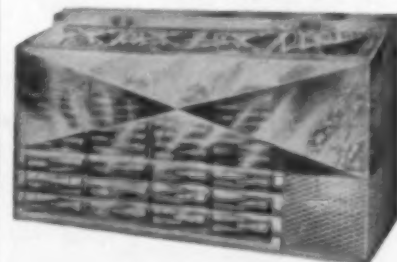
LARKIN COOLING TOWER

All Larkin refrigeration and air conditioning equipment is designed to give peak performance at low operating costs, whatever the requirements. The same organization that produced the original, patented cross-fin coil maintains a constant effort for better, more efficient design. Just one more reason why Larkin leads.

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Air Cooled and Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers

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579 MEMORIAL DR., S.E. • ATLANTA, GA.

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FLO-COLD DRINKMASTER
STAINLESS STEEL
CUBER—COOLER.

SOLD THRU DEALERS ONLY
WRITE

United Friguator Engrs.
MENOMINEE, MICH.

AVAILABLE IN SIZES 4 to 10 FT.

Moisture—Its Causes and Cures

Film Strip Demonstrates How To Keep Moisture Out Of System and How To Remove It If It Gets In

DETROIT—How the service man can effectively get moisture out of a refrigeration system is demonstrated in a new full-color sound-film strip on "Moisture—Its Causes and Its Cures" currently being shown around the country by the General Chemical Div. of Allied Chemical & Dye Corp.

The film was presented recently before the Detroit chapter of the Refrigeration Service Engineers Society by Henri C. Burki, field sales manager for General Chemical.

The copyrighted film led up to moisture removal by explaining that moisture causes freeze ups and corrosion. It outlined some of the careless service

habits and mechanical failures that let moisture into a system.

"It is false economy to try to save money by reusing the refrigerant taken from defective equipment," the film's script asserted. "Chances are it has already picked up too much moisture and other impurities."

"In cases where the unit is shut down for a check-up and where no leaks are known to exist, the refrigerant may be reused. But, always make sure to put in a clean, dry refrigerant cylinder. Marking cylinders 'dirty' and 'clean' is good protection against mix-ups."

"The same holds true for reusing oils or for filling with clean oil. Never use a dirty

funnel or can, or leave the cap off the oil can. You're only inviting dirt or moisture to enter at will.

Moisture Condenses On Cold Surfaces

"Remember, moisture is always present in the air and it condenses on cold surfaces. Individual pieces, previously dry, can pick it up fast, especially when they are cold."

The film noted that any time a cold connection is broken, condensation will form. It will also occur when you bring a part in from outside during cold weather and don't wait for it to warm up to room temperature before drying and using it.

Blowing Into Tube Leaves Moisture

Another common practice that spells trouble, the film said, is to blow into a tube in an attempt to clear it. Nothing in the tube is more harmful than the moisture-laden air you blow in.

Mechanical causes would include a loose suction line connection on the compressor. If it is operated under vacuum, the film noted, a lot of wet air is going to be sucked into the system.

"Large amounts of water can enter a water-cooled system due to leaks caused by corrosion or mechanical failures," the film presentation noted. "As soon as the gas leaks out, pressure forces water back into the equipment. Serious corrosion occurs and the equipment may be ruined unless the water is removed within a short time. Complete drying of the system is necessary."

Oxidation of Oil Is Another Source

"Another source of moisture is through oxidation of oil. If air is present in a system, oxidation of oil may occur, especially if the temperature is high. This forms water."

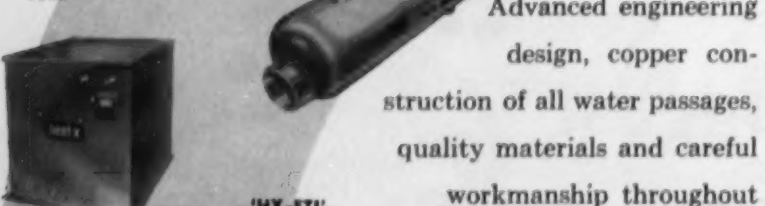
Once moisture gets into the system, it must be removed—

heat-x HEAVY DUTY UNITS

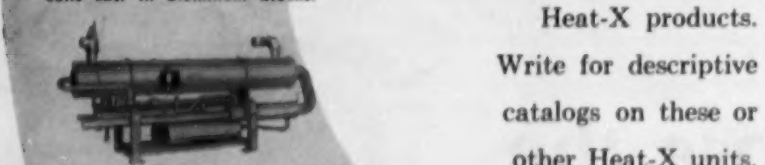
...Equipment you can Rely on



'RX' HEAT INTERCHANGERS
Inner-Fin construction. No oil trapping problem. Low Freon charge required. 7½ to 100 Tons.



'PC' WATER CHILLERS
Inner-Fin construction of refrigerant passages means greater cooling capacity, far less bulk. Completely "packaged" units: wired, ready to install. 2 H.P. through 100 H.P. Capacity control, available on 2 H.P. through 15 H.P. models for use with hermetic and semi-hermetic units, eliminates short-cycling during light load conditions and maintains constant suction pressure.



'PCL' CHILLER ASSEMBLIES
For those who prefer to tie in their own condensing unit and water pump. Construction the same as 'PC' line. 10 to 90 Tons.



'PC' WATER CHILLERS
Inner-Fin construction of refrigerant passages means greater cooling capacity, far less bulk. Completely "packaged" units: wired, ready to install. 2 H.P. through 100 H.P. Capacity control, available on 2 H.P. through 15 H.P. models for use with hermetic and semi-hermetic units, eliminates short-cycling during light load conditions and maintains constant suction pressure.

'CCP' PACKAGE CHILLERS
Combinations of cast aluminum coolers. Complete, ready to install. No danger of freeze-up damage. Hermetic or open compressors available. ½ H.P. through 10 H.P.

HEAT-X, Inc.
BREWSTER • NEW YORK

Ansul Opens T-Flo Traveler Promotion



T-FLO TRAVELER shown above is being distributed by Ansul Chemical Co. to wholesalers to demonstrate how Ansul's four cartridges and nine refrigeration fittings will make 40 different combinations. Ansul believes the promotion will result in more sales, more interest, and more traffic for wholesalers.

and fast. Here's how, according to the film:

"First of all heat should be applied to the unit to be dried. A temperature of 250 to 275° F. is recommended. Because of the nature of refrigeration equipment, it is easier to remove moisture as a vapor than as a liquid. . . . The higher the temperature, the faster water turns from liquid to a gas."

"Parts of the equipment, such as the walls of the metals and particularly the cotton and glass insulation, hold onto water with great tenacity. So the highest possible temperatures should be used."

"Because cotton breaks down under extreme heat, the temperature used to dry insulation should be kept within the 250 to 275° F. range. Glass, of course, can take very high temperatures without damage."

"Heat can be applied to the whole unit or to individual parts by means of an oven . . . or by using infrared lamps. The temperature must be controlled to prevent overheating."

Drying Unit Shown In Film

The film here showed a drying unit used by a Miami contractor. Heat is provided by six 250-watt infrared lamps. Heating time is four hours; temperature about 200° F. A Sunbeam rollator is used for the first pump-downs. Later vacuum is provided by a ½-hp. Welch pump to give 50 to 100 microns pressure.

The vacuum is broken with nitrogen gas. The oven holds four units.

"Time, as well as heat, is an absolute essential for proper drying because water cannot be changed instantaneously from a

liquid to a gas," the film asserted.

"Liquid water can remain for a long time in the bends of tubing and in out-of-the-way places even though the temperature seems high enough to evaporate it."

"Water held on the walls of metals and in the insulation is removed so slowly that several hours are required for its elimination to a level low enough so it can't cause later trouble."

"At least four hours, or some other time period determined by tests, are required to dry equipment. In general, a higher temperature will reduce the time of heating."

"However, there is a minimum period required which depends on the equipment and the degree of dryness required."

Steam Must Be Removed

"But heat and time are not enough to do a practical job of drying equipment. As water changes to steam, naturally it

(Concluded on next page)

SUPER-FLO FILTER-DRIER



MOLDED REMCAL DRYING FIBERGLAS DEPTH FILTERING
Check Super-Flo's amazing low price, for both original equipment and replacement, against ordinary driers which do not have Super-Flo molded drying elements, massive fiberglass depth filters and spun-end copper shells. Available to the trade through wholesalers everywhere.

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Atlanta 10, Ga.

or visit branches

For more information about products advertised on this page use Information Center, page 16.

Moisture—Its Causes and Cures--

(Concluded from preceding page) must be removed from the system.

"This will happen to a limited extent simply through the expansion of the liquid into steam. However, after all expansion has taken place, the equipment will be full of steam.

"On cooling, the steam will condense to liquid water. Re-heating will not expel it. In order to remove all the steam, 'Genetron,' dry air, carbon dioxide, or oil-pumped nitrogen should be passed slowly through the equipment.

"The gas will carry the moisture with it and result in a dry piece of equipment. The system should then be evacuated at an elevated temperature for the required period of time to remove these non-condensable gases.

"Dry air may be made by passing compressed air through a trap and then through a drier unit of suitable size. Such units, equipped with electrical heating units for regeneration, are charged with activated alumina, 'Drierite,' or silica gel.

"Normally these units are provided in pairs so that one may be regenerated while the other is in use. Oil pumped nitrogen may be used when the amount of gas required is not great.

"A vacuum pump is universally used to draw out the steam as it is formed. The pump, combined with heat and time, speeds up the whole operation since the boiling point of water is lowered under a vacuum.

"However, a vacuum is not a substitute for heat and time.

Note of Warning!

"One note of warning! A vacuum will not show the presence of a plug-up in the system as does a dry gas stream. The difficulty may be avoided by breaking the vacuum with dry gas at a point farthest away from the pump. A vacuum gauge will reveal a plug-up.

"Where an oven is not available for drying, each part may be flushed with methanol or some other suitable solvent and the excess solvent removed by heating carefully with a blow

torch starting at one end of the equipment and working toward the other.

"Ventilate the room well while working. A word of warning! Don't use carbon tetrachloride. It is extremely toxic.

"In drying in this manner, all of the alcohol must be removed and the equipment then sealed from contact with moist air. A small charge of liquid 'Genetron' 12 is sometimes added to the equipment and allowed to evaporate. This will carry off both water and methanol. The methanol may also be removed by a stream of dry air or gas while the equipment is being heated."

Driers and Liquid Additives Discussed

The film, which was prepared under the technical direction of Dr. Walter O. Walker, "Genetron" consultant and dean of the division of research and industry at the University of Miami, concluded with a brief discussion of the use of driers to remove acid, and liquid additives.

"All desiccants adsorb acid to some degree," the film declared, "but if the quantity of acid present in a machine is large, the desiccant will probably not clean it up.

"A machine producing a large number of acid is operating abnormally and is in serious trouble. In cases where there are prolonged reactions between the refrigerant and oil, due to high temperature, it is extremely improbable that the desiccant can do much real good, since its capacity to adsorb acid will soon be exceeded.

"Unless the temperature is reduced, several ounces of acid may be formed, far too much to be picked up by a drier. Such equipment cannot be bailed out of its trouble by the use of a drier. It must be restored to normal operating condition."

Liquid additives such as methanol and "Thawzone" are widely used since they give immediate relief from freeze ups, the film noted.

"But such handling does not cure the moisture problem," it added, "since the water is not removed from the system. In fact if more than 1% by volume of the additives is used, corrosion is enhanced.

"That is why it is always better to utilize good service techniques to keep out moisture and then use a good desiccant to remove any that may get in rather than to use an antifreeze additive."

Pointing out that there are moisture problems for which there are no "pat" solutions, the company offered its technical service to servicemen who run into unusual problems.

PRESSTITE

±165 Cork Insulation Tape



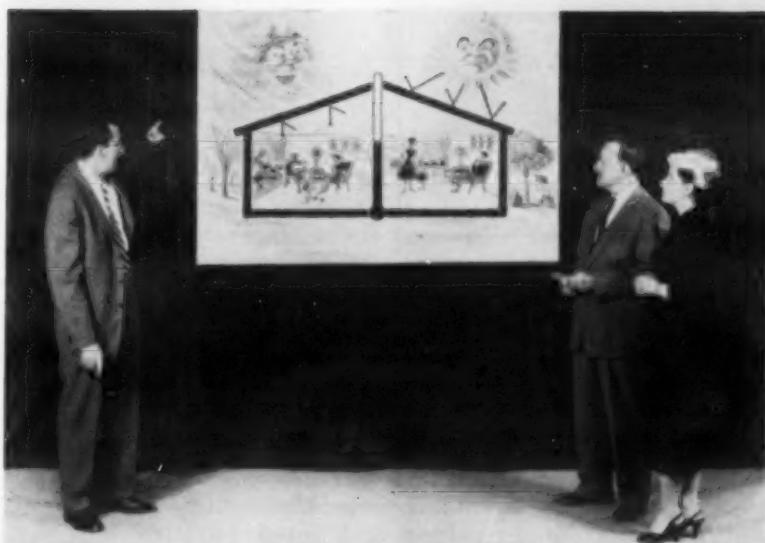
Anti-Sweat
Pipe
Wrapping

Stops Drip!

See your wholesaler or WRITE

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Engineering Products
COMPANY

39th & Chouteau St. Louis, Mo. 101 E. Ontario Chicago, Ill.



CAST of Broadway actors is going on a nationwide tour to inform home builders on how the average house can be built for heating and cooling at amazingly low cost. Aided by the rear projection screen shown, the actors Jim Campbell, Frank Thomas, and Mary Patton will show how the average new home (12,000 sq. ft.) can be heated and cooled for as low as \$12 per month.

Alcoa Traveling Troupe Shows Builders How Houses Can Be Constructed To Be Heated and Cooled for \$12 per Month

NEW YORK CITY — To demonstrate to builders how the average (1,200 sq. ft.) new home, when correctly insulated, can be heated and air conditioned for about \$12 per month, the Aluminum Co. of America is sending a Broadway-produced show on a 45-city tour.

The facts for the presentation spring from research projects just completed on the use of aluminum foil in insulation at the National Bureau of Standards and Pennsylvania university. Both projects were sponsored by Alcoa.

The "Builders' Clinic" road show will demonstrate graphically how new homes can be built using aluminum clad insulation to achieve "startling" heating and cooling economies.

Cast of the show, which was produced by Max Richards, includes Frank Thomas, Mary Patton, and Jim Campbell, all experienced performers.

The six-months' tour started in Columbus on Oct. 15 and moved to Cleveland, Pittsburgh, and Washington. The show will appear at the Benjamin Franklin hotel on Oct. 22, at the Pierre hotel in New York City on Oct. 23, at the Peabody hotel in Memphis on Oct. 26, and at the Biltmore hotel in Atlanta on Oct. 29.

The show will be presented in most cases before joint local meetings of the National Association of Home Builders and the Producers Council.

Schedule for the remainder of

the year is as follows: Rice hotel, Houston, Texas, Oct. 31; Adolphus hotel, Dallas, Nov. 2; Ambassador hotel, Los Angeles, Nov. 5; Bermuda Palms hotel, San Rafael, Calif., Nov. 7; Albany hotel, Denver, Nov. 9; Statler hotel, St. Louis, Nov. 12; and Pere Marquette hotel, Peoria, Ill., Nov. 13.

The Builder Clinic shows are the first stage in a five-year promotional campaign by Alcoa to inform builders on the value of aluminum-surface insulations in new home construction. Theme of the million-dollar promotion is "Comfort Everybody Can Afford."

The program will be supported by advertising in consumer magazines and trade journals. Direct mail and organized publicity campaigns will also be initiated, the company said. Commercials on the promotion will be featured on the televised Alcoa Hour.

Based on the investigations carried on at both the National

Bureau of Standards and at Penn State university, Alcoa said that it concluded:

"It is now possible for the first time to calculate precise insulating values for any aluminum-surface insulating materials in any confined space.

"It is possible for the first time to calculate precisely the insulating values of reflective surfaces—either alone or in combination with mass insulation—when facing an open attic area.

"All attics should be ventilated. Aluminum-clad insulation—when facing an open attic.

"Aluminum-clad insulation performs its greatest service in summer in ventilated attics, either flat roof or gable roof, when heat is flowing downward.

"Service performed by aluminum-clad insulation in walls is virtually the same in winter and summer, since its main function is to serve as a barrier retarding heat flow in or outward.

"Aluminum-clad insulation materials must be properly installed to be effective.

"A proper amount of aluminum-clad insulation is essential for efficient heat-proofing."

Viking Air Products Announces 3 Shifts In Sales Executives

CLEVELAND—Three Viking Air Products sales executives have been appointed to new sales positions, it is announced by Richard F. Gang, general sales manager for the Viking Air Products Div. of the National-U. S. Radiator Corp.

Malcolm F. Mackenzie has been appointed as account executive for heating manufacturers in Wisconsin, Illinois, and the metropolitan St. Louis area. Mackenzie is a 10-year sales veteran with Viking.

Clifford Woodruff is named district sales manager for heating and electrical appliance distributors in the same sales area.

William Siebenthaler is the new district sales manager for Texas, Oklahoma, Kansas, and eastern Missouri.

PRIMORE AUTOMOTIVE AIR CONDITIONING VALVES

are rapidly becoming the standard of the industry

Here's why—

- Designed especially for Automotive use
- Precision manufactured
- Hydrogen brazed steel construction cuts costs

Primore's engineers have designed a series of Compressor Pad Valves and fittings especially for Automotive Air Conditioning units.

In addition, Primore engineered valves are also available for automotive air conditioning components such as Condensers, Receivers, Evaporators, etc.

NEW PRIMORE REFRIGERATION VALVE CATALOG NOW AVAILABLE

Complete details and data for Household and Commercial Refrigeration, Residential and Automotive Air Conditioning valves and fittings. Write, or phone for your copy.



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Refrigeration Problems And Their Solution

By Paul Reed

For Service and Installation Engineers



Starting Relays (3)

VOLTAGE TYPE STARTING RELAY

To start with, it must be understood that the voltage type relay can be used only with the condenser-start type of single phase motor; so it is not, under any condition, interchangeable with the current type relay if the motor is the ordinary split-phase type.

Moreover, the voltage type relay is a normally closed type of relay; that is, its contacts are in the closed position when

the relay coil is not energized. The contacts are held closed by a spring or by gravity, that is, by the weight of the armature, which is the "clapper" which is attracted by the magnet coil.

Obviously, the contacts of the voltage type relay must be in series with the starting coil, the same as in the case of the current type relay, for the purpose of a starting relay of either type, is to put the starting coil in the circuit during starting, but take it out of the circuit as soon as the motor gets to a high enough speed that the running winding can bring the speed on

up to normal running speed.

In the previous instalment it was shown that the magnet coil of the current type relay is in series with the main winding of the motor, so it must be wound of heavy wire (but few turns) in order to enable it to withstand the heavy current drawn by the main winding during normal full load operation and the even heavier current drawn by the main winding during the starting period.

In contrast, the magnet coil of the voltage type relay is wound of hundreds or even thousands of turns of small wire. This being so, it cannot be put in series with the main winding, for it would cut the voltage to the main winding so low that the motor would probably not start. Even more to the point, the coil would heat up so much that it would soon burn out.

COIL OF VOLTAGE RELAY IN PARALLEL WITH STARTING WINDING

Therefore, the magnet coil of the voltage type relay is placed in parallel (also referred to as "in shunt") with the starting winding as shown in Fig. 3.

When the pressure control or thermostat closes to start the motor, the relay contacts are already closed, so line voltage of 115 volts is fed to the main winding and the starting winding circuit. The latter consists of the starting winding (with the magnet coil of the relay in parallel with it), the starting capacitor, and the relay contacts in series.

The starting winding and starting capacitor combination enables the motor to have starting torque (or turning power) enough to bring the motor up to speed. In fact, the starting winding-capacitor combination

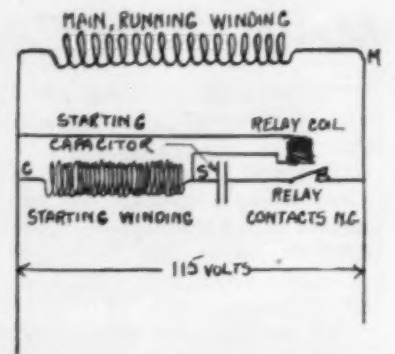


FIG. 3—Connections of voltage relay capacitor, and capacitor-start motor.

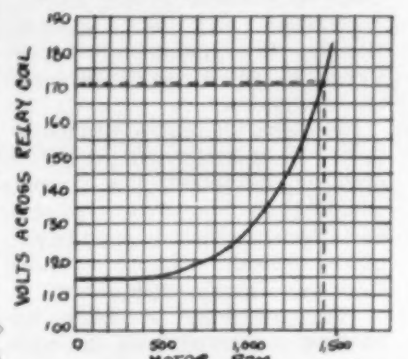


FIG. 4—Typical voltage across starting winding of capacitor-start motor.

gives the motor greater starting torque than the starting winding only, thus allowing the capacitor-start type motor to start heavier loads than the split-phase motor, which has no starting capacitor and depends for its starting torque on the starting winding only.

VOLTAGE RELAY OPERATED BY INDUCED CURRENT

As the motor picks up speed, the voltage across the starting winding increases, and so does the voltage across the magnet coil of the relay. Finally, when the motor gets up to about 1,300 to 1,400 r.p.m. (for a 1,725 r.p.m. motor) the voltage across the starting winding and magnet coil is about one third to one half above line voltage, and is great enough that the magnet coil can attract the armature of the relay against the spring or against gravity.

All this time the relay contacts have been closed; now they are opened. This takes the starting coil and the magnet coil (also the capacitor) out of the line circuit, but the main winding is able to continue to build the speed on up to full load speed, just by itself.

But just because the line has been disconnected from the starting winding is no sign that there is no voltage across the starting coil. It is still exposed to the magnetic field of the motor, and the rotor is causing a voltage to be generated in the starting coil. This voltage is enough to enable the magnet coil to hold the relay armature, and thus keep the contacts open.

VOLTAGE RELAY MUST BE MATCHED TO MOTOR

Even more so than with the (Concluded on next page)



Welcome News!

Easy-to-apply KWIKWRAP Tape from "VIRGINIA"

Yes, both old and new friends of "Virginia's" Presstite Insulation Tape will welcome the new Kwikwrap Tape, packaged in 30-in. flat strips for an easier, quicker, neater way of covering cold pipes to prevent condensation and stop dripping. Hot pipes up to 200°F. can be insulated, too. Kwikwrap is especially handy when space around the pipe or tubing is too limited to permit

passage of a regular roll of tape. Kwikwrap is applied horizontally (see photograph above).

Kwikwrap is supplied in six widths, each designed to exactly cover a specific tube or pipe size— $\frac{1}{2}$ to 1 $\frac{1}{2}$ inches OD. Strips are applied so that the end of one joins to the end of the one before it; they will self-seal when pressed together.

HOW KWIKWRAP TAPE IS PACKAGED

Width for $\frac{1}{2}$ in. OD	} Carton of 24 30-in. x $\frac{1}{4}$ -in. strips—sufficient for covering 60 lin. ft.
Width for $\frac{3}{4}$ in. OD	
Width for 1 in. OD	} Carton of 18 30-in. x $\frac{1}{4}$ -in. strips—sufficient for covering 45 lin. ft.
Width for 1 $\frac{1}{4}$ in. OD	
Width for 1 $\frac{1}{2}$ in. OD	

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THE HORTON COMPANY**
915 Liberty Ave., Pittsburgh 22, Pa.

Starting Relays--

(Concluded from preceding page) current relay, the voltage relay must be matched closely to the motor characteristics—particularly to the "induced" voltage generated by the starting coil and the size of the capacitor. Thus the voltage relay cannot be indiscriminately applied to any single phase motor, not even to just any capacitor start motor.

It is true that the same voltage type starting relay can be applied to a variety of sizes (hp.) of motors, but they must all have similar characteristics, as could be true of a "line" of motors by the same manufacturer or having similar specifications and characteristics.

This is not true in the case of the current-type relay, for the current drawn by a 1/2-hp. motor is much greater, for example, than the current drawn by a 1/4-hp. motor, even if they are of the same "line" type, and characteristics otherwise. Therefore, each size of motor requires a current type relay having a magnet coil sized to the current of that motor.

Despite your unfortunate experience and regardless of any misguided advice to the contrary, it is neither safe nor wise to replace current type starting relays with voltage type, nor in fact, to use different makes and types of voltage relays interchangeably unless you have been so instructed by the manufacturer of that motor, condensing unit, or other equipment.

Moreover, follow the wiring diagrams provided by the equipment manufacturer, and use only the capacitor that he specifies. He is apt to be right, but if he is wrong, let him make the mistake and thus be responsible rather than you. It's much cheaper, and will save you a lot of trouble.

CHECKING STARTING RELAYS

Starting relays are usually easy to check. Follow the manufacturer's directions as given

in his service instructions. If these are not available, the following general methods of test may be used.

They involve disconnecting the relay and doing the switching yourself, by hand, with a short length of insulated wire.

In the case of the current relay disconnect the lead from the motor starting winding to the relay, and make a momentary contact of this lead to the main coil at the connection usually marked M. Do not leave it connected more than two or three seconds; the motor should start and come up to speed in that time. If it doesn't, something else is wrong.

In the case of a voltage relay, short the two contacts, for a second or two—not too long, for you may damage the capacitor. If the motor doesn't start, the trouble is more apt to be in the capacitor than anywhere else. Probably the easiest way to find out is to remove the two wires to the capacitor and reconnect them to a new capacitor of exactly the same specifications (voltage and microfarads).

When removing connections, be sure to mark them carefully so that you can put them back as they were. This may save you a lot of time tracing out the wiring.

(The End)

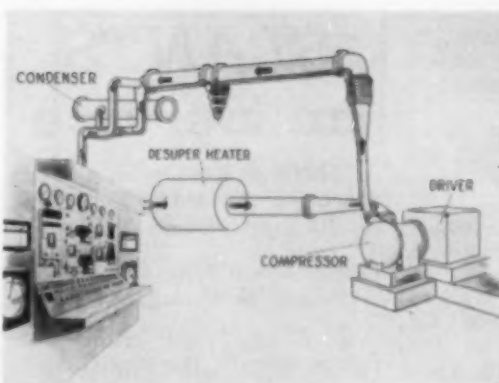
New Fiber Box Wins Approval for Water Coolers Up to 200 Lbs.

CHICAGO—Water coolers, or cooling and freezing apparatus combined, may now be shipped in a new fiber box authorized under an addition to the Uniform and Consolidated Freight Classifications, according to the Fibre Box Association.

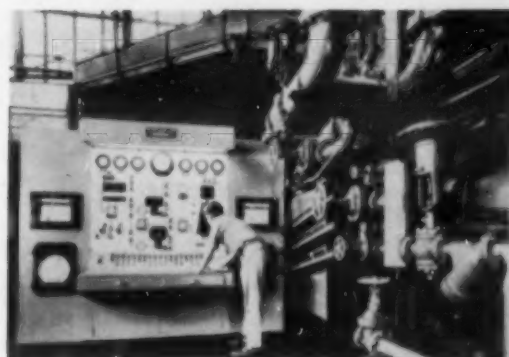
The new container, called Package 1132, is described as a fiber box with at least three-quarters of an inch clearance between the walls of the container and the packaged item provided by "L" shaped fiberboard corner posts.

Coolers so packaged will be further protected by caps of double-wall fiberboard, and paraffin coating of the fiberboard surfaces or nonabrasive material may be used to prevent marring of fine finishes.

So sturdy are these fiber boxes that the classifications permit units so packaged to gross up to 200 lbs., the association said.



SCHEMATIC of Worthington's new closed circuit test loop for research and development work on centrifugal refrigeration compressors. Arrows indicate gas (refrigerant) flow.



INSTRUMENT PANEL and central control station of new test loop at Worthington's Research and Development Laboratory, Harrison. Data readings on centrifugal refrigeration compressor are checked and punched on cards for electronic digital computer.

Worthington Closed Circuit Test Loop Allows Testing of Compressor by Itself

HARRISON, N. J.—A unique new research facility, a closed circuit test loop with electronic digital computer, was demonstrated recently by Worthington Corp. at its Research and Development laboratory. It is believed to be the first of its kind.

Worthington will use the loop for the testing and developing of new products, particularly new compressors for the air conditioning and refrigeration equipment it manufactures.

The loop also will be used to determine performance ratings and for production quality control.

Technically, the facility is an automatic, spray desuperheating, closed system. Non-technically, it is comparable to a wind tunnel used in aircraft laboratories except that refrigerants are circulated through its giant pipes and tubes rather than a stream of air.

Cuts Time Required for Field Testing

Matthew M. Lawler, vice president and general manager of Worthington's Air Conditioning and Refrigeration Division, said the new research tool with its electronic processing equipment "will enable us to accomplish in hours or a few days what formerly took months."

Lawler said Worthington is striving constantly to design and produce compressors with 1) higher efficiency; 2) lower noise levels; 3) wider range of cooling capacity; 4) mechanical dependability; 5) simplicity of

operation. Also, he said, the division is working always to reduce the size and cost of compressors.

"The new closed circuit test loop developed by Worthington engineers will help us achieve those objectives by enabling us to simulate, here in the laboratory, exacting field test conditions, test our new designs under those conditions, and quickly compute the results," Lawler stated.

Compressor Could Not Be Tested Alone

"In the past, test data were obtained from field and shop tests conducted on central station refrigeration systems. Testing in refrigeration systems has a primary disadvantage in the fact that compressor performance cannot often be determined independently of system performance, a lack of control of test fluid properties, and a lack of rapid test system response."

The new Worthington research facility overcomes those handicaps because the compressor alone may be tested; the loop can test compressors with all the most commonly used refrigerants, and because it is automatically controlled.

The loop will be used to test those giant centrifugal refrigeration compressors vital in many industrial processes and necessary to air condition factories and multi-story buildings.

Briefly, here is how the test loop will be used:

A new compressor is designed and a working model built. The model is connected with the new test loop. Field test conditions are set up, conditions which would be encountered were the compressor part of an installation in an industrial plant or office building.

Compressor performance is measured under these field conditions. The results are fed into the electronic digital computer, which tabulates the results.

The Worthington engineers then can compare actual results with design predictions.

Physically, the test loop is a gargantuan maze of multi-colored pipes, tanks, tubes, dials, meters, lights. It towers above the laboratory floor. A modern Worthington steam turbine powers the compressor being tested. The engineer who mans the loop controls it from a central control station where the test information is registered.

This information is delivered to the electronic data processing room located across the laboratory floor. There it is punched onto cards, and the cards are run through the blinking, clicking computer until the answers are recorded.

Computer Is Air Conditioned

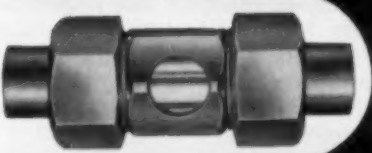
And while the computer whirs tabulating the performance of a compressor that someday may air condition a factory or skyscraper, it in itself is air conditioned to maintain the constant temperature and humidity required for the mechanical and electronic components. A Worthington packaged air conditioner cools this room.

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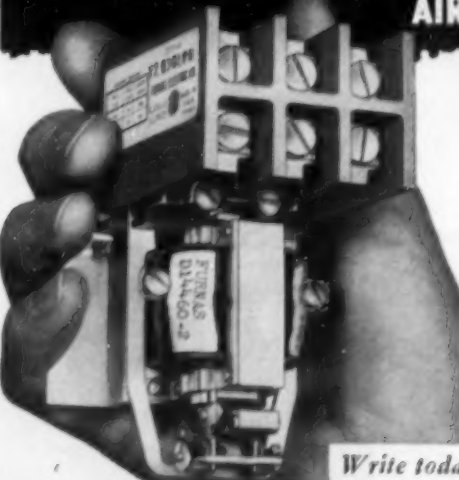
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Barnebey Catalog Covers Activated Charcoal Uses

KEY NO. R-1040

COLUMBUS, Ohio—A new catalog that is said to give an "A to Z" rundown on how activated charcoal can be used effectively for air recovery, odor removal, air purification, food preservation, and as a solvent recovery was recently issued by the Pur Air Div., Barnebey-Cheney Co. here.

A three-section gray folder describes B-C equipment, applications, and the charcoal. Illustrated technical sheets, magazine reprints, cartoons, and detailed reports are included.

Cochrane Describes Hot Lime Zeolite

KEY NO. R-1041

PHILADELPHIA—A bulletin on the versatility and economy of hot lime-zeolite softeners was recently released by Cochrane Corp. here.

Dealing with the method of operation, expected results in chemical savings, and simplicity of operation, the bulletin brings out the fact that with the addition of the zeolite stage, the application of hot process to water conditioning is practically limitless, the company said.

'57 Appliance Blue Book Available In November

KEY NO. R-1042

MADISON, Wis.—The 1957 Home Appliance Blue Book will be off the press the first week in November, it was announced recently.

"Realistic trade-in values on refrigerators, freezers, electric and gas ranges, washers, and dryers of almost every brand and model ever produced will be included,"

the announcement further said. "Each section will have the 'appliance' listed on each page to make the 1957 edition easier to use.

"The new articles, list prices, and trade-in values make this 1957 edition an extremely valuable sales tool for all dealers."

Single copies can be purchased from the publisher at \$7.50 each. Manufacturers, distributors, and utilities may contact the National Appliance Trade-In Guide Co., 2105 Sherman Ave., Madison, Wis., for prices and distribution plans.

Bulletin Covers Air Conditioner Motors

KEY NO. R-1043

SCHENECTADY, N. Y.—"Fan Motors for Air Conditioners," Bulletin GEA-6533, illustrating the advanced construction features of new type KCP, permanent-split capacitor fan motors for room air conditioners has been published by the General Electric Co.

Two-color publication includes a "Design Engineer's Corner" which points out motor's speed versatility, low temperature rise, high power factor, and other design advantages. Motors range from 35 mhp. to 1/2 hp.

Chart Aids In Selection Of 'Outdoor' Controls

KEY NO. R-1044

WESTERN SPRINGS, Ill.—A chart scheduling the most suitable "Outdoor" controls for use with different types of heating systems under varying conditions and requirements has been prepared by Automatic Devices Co., Inc.

This chart, together with "guide specifications" prepared in outline form and scheduled separately for various types of heating systems, requirements, etc., are contained in a new bulletin, No. N-756.

SLANTS on Service

"Slants on Service" is a handy "package" devised by the NEWS for its busy readers.

Faulty Fuse Can Cut Power to Conditioner

If 220-volt air conditioners fail to operate, the first thing to do is check the power supply to the equipment, but be sure to check both "legs" of the 220-volt supply.

This advice comes from Charlie Rose, Houston branch manager for Payne Div., Carrier Corp., following his experience with a chattering starter-contactor and inoperative motor in a unit he was setting up to conduct an air conditioning school.

"A check was made on the low pressure switch with the suspicion that a leak had developed and a low or partially low pressure existed in the system," he recalls. "The assumption was mistakenly made that the voltage was probably all right, as the unit under night-time conditions had operated without difficulty."

"When a voltage check was run, we learned that we had a total of 175 volts to the equipment," said Rose. "A closer check revealed that one leg was supplying 110 volts and that the other leg was supplying 65 volts."

"Further checking revealed that the cartridge-type fuse used in one leg apparently was operating all right as it was allowing current to pass. Ultimately it was found that this fuse was just on the verge of burning out. Upon replacing this fuse, the voltage was returned to operating normally, and the equipment responded," Rose explained.

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Servicing Weathertron Heat Pumps (15)

Originally just a theory and for many years subject only to occasional experimental installations, the heat pump of late has developed into a practical and expanding business.

Design, manufacturing, sale, installation, and service of the heat pump have already become important factors.

In recognition of the present stage of development, and the expected future, the NEWS has been presenting this series of articles on servicing the G-E air-to-air "Weathertron." This instalment concludes the series.

G. DEFROST COMPONENTS.

SYMPTOMS

Defrost too frequently.

Does not defrost frequently enough.

Check air flow in accordance with instructions.

Check defrost sensing switch setting.

If SP stays closed remove cover glued to top of defrost switch and check to see if spring and adjacent screw seat are in proper location.

SYMPTOMS

Will not defrost.

Defrost relay (D) will not pull in.

Jumper the two wires from the defrost sensing switch (SP) at the point where they are attached to the time delay relay (TD).

Defrost relay pulls in after approximately 20 seconds:

Check setting of SP in accordance with recommended procedure.

Check for water in lines or a sealed tube (blocked with ice).

Check contacts with continuity tester to see if they are making (Caution: turn off power supply first).

Defrost relay does not pull in after approximately 20 seconds:

Jumper 18 to 14.

Defrost relay (D) closes:

The time delay relay (TD) coils burned out or TD contacts dirty or not making. If defrost relay drops out as soon as jumper is removed then D-3 contacts dirty or defective.

If H relay does not drop out when D relay comes in the D-3 not breaking.

If W relay does not come in or drop out at beginning or end respectively (assuming second stage thermostat TSH-2 open) of defrost cycle then D-2 contact defective.

Defrost relay does not close:

Jumper 18 to 15.

Defrost relay closes:

Defrost termination switch (PS) contacts dirty or defective or P.S. out of calibration (set too low).

Defrost relay does not pull in:

Defrost relay (D) coil defective.

SYMPTOMS

Stays on defrost continuously. Stop unit for 5 minutes then restart.

Defrost relay does not close immediately:

Defrost termination switch (PS) contacts out of calibration (set too high) or stuck in a closed position.

Defrost relay does close:

Remove lead 21 from terminal 21 then restart.

Defrost relay does not close:

Defrost sensing switch (S) contacts stuck closed or switch out of adjustment.

Check if coil of time delay (TD) grounded to contacts.

Defrost relay closes:

D-3 contact normally open not opening or TD contacts stuck closed.

SYMPTOMS

Cold drafts during defrost.

Check to see if supplementary heat contactor AH is picked up.

AH picked up:

Heaters were broken or contacts of contactor defective.

AH not picked up:

Jumper L2 to 13.

AH picks up:

D-1 contacts dirty or defective.

AH does not pick up:

Jumper L1 to 4.

AH picks up:

MS dirty or defective.

AH does not pick up:

Jumper thermal cutout switch (TCO) in supplementary heater box.

AH picks up:

TCO contacts open either to over heating (ID fan not running) or TCO defective.

AH does not pick up:

AH relay coil defective.

H. REFRIGERANT SYSTEM.

SYMPTOMS

No cooling or no heating.

Low capacity cooling.

Low capacity heating.

1. ALL electrical checks pertaining to low heating or cooling capacity must first be made.

2. Air flows must be checked. Substandard air flow will have a great effect on capacity.

If both 1 and 2 are completed satisfactorily and it is still suspected that low capacity is present, a combined check of the refrigerant cycle can be made.

Check the temperature difference across the coils in accordance with the manufacturer's tables and the input watts to the compressor (or entire unit if fans are at proper wattage). By these checks it can be determined if the unit is measuring up to its full capacity. If made carefully, the capacity can be checked with reasonable accuracy.

Allowances must be made for conditions other than those in the tables such as humidity variations and low or high return temperatures. On heating all checks should be made without the supplementary heaters energized. Temperatures should be measured in such a manner as to reduce, as far as possible, radiant effects from the coil.

(The End)

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| 5) Proper Refrigeration Zone Use Adds to Food Life | 20) Push-Button Selling Problems of the Future |
| 6) News Survey Shows Trends in Residential Air Conditioning | 23) Detroit Commercial Refrigeration Sales |
| 7) Psychological Study Shows Hidden Benefits of Home Conditioning | 25) Fort Worth Survey Reveals New High in Home Air Conditioning Installations |
| 8) How Ceiling Diffusers Can Be Used in Residential Systems | 26) Memphis Residential Air Conditioning in 1955 |
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| 14) New Minneapolis Survey Shows Home Installations 176% Higher Than '54 | 32) Air Conditioning Conference Spotlights the Air-Cooled Condenser |
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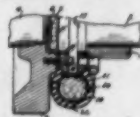
Week of May 29
(Continued)

2,747,385. REFRIGERATING APPARATUS. James W. Jacobs, Dayton, Ohio, assignor to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application Aug. 28, 1953, Serial No. 376,606. 3 Claims. (Cl. 62-4.)



3. In combination with a car having a passenger compartment and an engine compartment, an engine within said engine compartment, a compressor, torque transmitting means between said engine and said compressor including a clutch, a solenoid for energizing said clutch, a refrigerant evaporator, blower means for circulating air to be conditioned for said passenger compartment in thermal exchange with said evaporator, a condenser, refrigerant flow connections between said compressor, condenser, and evaporator, a source of electrical energy, circuit means connecting said solenoid to said source, switch means in said circuit means for controlling the operation of said solenoid, and means for reducing the flow of current to said solenoid upon actuation of said clutch by said solenoid so as to reduce the amount of electrical energy required to maintain said clutch in compressor driving position.

2,747,386. FLEXIBLE COUPLING. Robert W. Ayling, Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application Oct. 19, 1953, Serial No. 386,800. 3 Claims. (Cl. 62-11.)



1. In a flexible coupling adapted to transmit forces of rotation from the shaft of a driving member to the shaft of a driven member, the combination of a flexible, hollow annular member, having its inner portion terminating in spaced flanges, a clamping ring to clamp one flange against a member to be driven, means securing the ring in clamping position, a second clamping ring clamping the opposite flange against a driving member, means securing the second ring in clamping position, and a tube within the hollow member, said tube being partially filled with a viscous fluid.

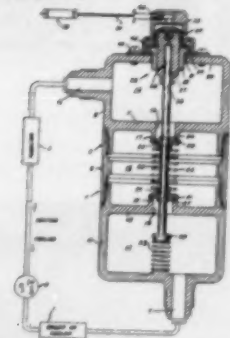
2,747,495. REFRIGERATED AIR DISTRIBUTING APPARATUS. Lloyd E. Muller, Flint, Mich., assignor to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application Dec. 26, 1952, Serial No. 328,037. 4 Claims. (Cl. 90-2.)



1. In a system for conditioning the air for the passenger compartment of an automobile having a front seat and a back seat; an air distributing duct extending along the side wall of said passenger compartment at an elevation above said seats; said duct having a first air outlet adjacent said back seat; a first outlet grill for said first air outlet comprising an air deflector supporting socket adjacent one end thereof, an air deflector mounted in said socket for adjustably directing one portion of the incoming air in any desired direction; said air deflector including means for shutting off the flow of air therethrough; one portion of said first grill having a curved surface provided with first series of outlets for directing a curtain of air towards the ceiling of the passenger compartment and second series of outlets for directing a curtain of air downwardly adjacent the side wall of said compartment, and means for shutting off the flow of air through said first and second series of outlets; said duct having a second air outlet adjacent said front seat; and a second outlet grill for said second air outlet comprising an escutcheon plate having an air deflector supporting socket adjacent one end thereof, an air deflector mounted in said last named socket for adjustably directing one portion of the incoming air in any desired direction; and air outlet grill formed adjacent the opposite end of said escutcheon plate, said outlet grill having fixed louvers integrally formed with said last named plate for directing a second portion of the incoming air in a direction forwardly relative to said front seat; the mid-portion of said last named escutcheon plate having a curved surface provided with first outlet means for directing a curtain of

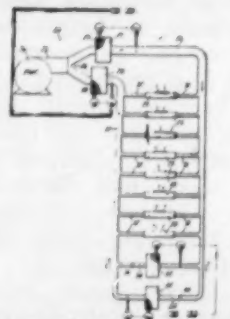
air towards the ceiling of the passenger compartment and second outlet means for directing a curtain of air downwardly adjacent the side wall of said compartment.

2,747,500. HEATING AND COOLING SYSTEM AND CONTROL VALVE THEREFOR. Neal J. Mosely, Mt. Lebanon, Pa., assignor to Detroit Controls Corp.



2. In a thermostatic valve, a hollow valve casing having a first fluid flow opening at one end and a second fluid flow opening at the other end, two walls within said casing dividing the same into two end chambers and a central chamber, said walls having aligned valve seats facing into said central chamber providing valve ports for flow of fluid therethrough, a pair of valve members in said central chamber cooperable one with each of said valve seats, a spring positioned between and engaging each of said valve members and urging the same toward closed position, said valve members having aligned central apertures therein, an operating rod slidably positioned in said valve member apertures, a pair of abutments on said rod on the end chamber sides of each of said valve members, said rod being operable upon movement in one direction to engage one of said abutments with one of said valve members to move the same toward open position and upon movement in the opposite direction to engage the other abutment with the other valve member to move the same toward open position, and thermostatic means for moving said rod in one direction upon increase in temperature and in the opposite direction upon decrease in temperature.

2,747,542. AIR CONDITIONING SYSTEM. Nicholas S. Shataloff, New York, N. Y., assignor to Buensod-Stacey, Inc., New York, N. Y., a corporation of Delaware. Application Feb. 9, 1953, Serial No. 335,725. 9 Claims. (Cl. 257-3.)



1. In an air conditioning system the combination including centrally located air conditioning means, air dis-

tributing means in at least one zone to be conditioned, cold air and warm air supply ducts connecting said central conditioning means with said air distributing means for supplying cold and warm air thereto, means normally forcing air through both of said ducts at substantially the same pressures, and means responsive to increased air demands in one air supply duct for passing air from the other air duct into said one air supply duct, said last mentioned means including interconnecting duct means between said air supply ducts and other conditioning means in said interconnecting duct means for further conditioning air passed from said other duct to said one duct.

2,747,965. INSIDE CONTROL FOR REFRIGERATOR DOOR LATCHES. Walter E. Emmert, Los Angeles, Calif., assignor, by direct and mesne assignments, of one-half to Horace Fong, Oakland, Calif. Application Oct. 3, 1952, Serial No. 312,978. 8 Claims. (Cl. 292-92.)



1. For use in a door lock comprising a pair of relatively movable interengageable holding elements to be mounted one to an outer side of a door member and the other to an adjacent support member and adapted for release from said outer side of the door; the combination with a first of said holding elements of mechanism for controlling said first holding element from the inner side of the door, said mechanism comprising an elongated longitudinally movable push rod operatively connected to said first holding element and extending through one of said members, a latch element extending into a transverse opening in said push rod at said inner side of the door and support to prevent longitudinal movement of the rod toward said outer side thereof, a handle telescopically carried by and longitudinally movable relative to said push rod at said inner side of the door and support, and wedge means operable by said handle upon predetermined longitudinal movement thereof relative to said push rod and toward said outer side of the door and support to release said latch element, said combination including means movable with said handle and forming a shoulder engageable with said push rod after said predetermined movement of the handle relative thereto to transmit further longitudinal movement of the handle to the push rod.

2,746,185. CONDENSER HOUSING AND MOUNTING THEREOF. Earl H. Brunke, Rochester, N. Y., assignor to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application Sept. 1, 1951, Serial No. 244,816. 5 Claims. (Cl. 174-52.)



1. The combination with a condenser having a housing of insulating material (Continued on next page)

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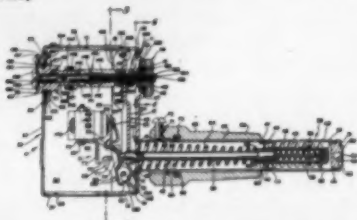
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PATENTS

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rial with an open end, opposite exterior sidewalls of said housing having longitudinal grooves therein, and a cap of insulating material constructed and arranged to be attached to said housing so as to close said open end; of a mounting bracket having opposed, inwardly extending portions arranged to be received in said longitudinal grooves and retained therein by said cap so as to preclude relative movement between the bracket and the condenser housing.

2,748,224. CONTROL DEVICE. Earnest J. Dillman and Fred C. Galley, Detroit, Mich., assignors to Detroit Controls Corp., Detroit, Mich., a corporation of Michigan. Application Aug. 17, 1954, Serial No. 450,496. 17 Claims. (Cl. 200-140.)

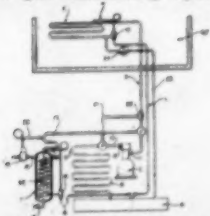


5. In a control device, a casing having a wall with a threaded aperture therethrough, a first lever positioned in and pivotally secured to said casing, an actuating lever pivotally secured to said first lever, a switch secured in said casing and having a plunger for actuation by said actuating lever, a spring member biasing said plunger to a first position, a portion of said actuating lever having direct operative engagement with said plunger, a temperature responsive power element secured to said casing, a rod member positioned within said casing and having one end secured to said power element and movable therewith, said rod member other end being operable to engage directly against said actuating lever between said pivot connection and said plunger engaging portion upon a predetermined elevation in temperature and rotate said first lever about its pivotal connection, and a shaft member positioned in said casing substantially normal to said first lever and having a threaded end portion extending through said threaded aperture, said shaft member having an abutment portion engageable with said first lever and operable to oppose said rod member movement in a direction toward said actuating lever so that said actuating lever will rotate about its pivotal connection and move said plunger against the bias of said spring to a second position, said shaft member being operable upon rotation to position said abutment portion relative to said first lever so that the relative movement of said rod member necessary to move said plunger to its second position may be changed.

Week of June 5

2,748,571. DEFROSTING SYSTEM FOR REFRIGERATION EVAPORATORS. Ray M. Henderson, Bellaire, Texas. Application April 3, 1952, Serial No. 290,963. 10 Claims. (Cl. 62-3.)

6. A hot gas defrosting system for



refrigeration apparatus comprising, a secondary evaporator separate from the refrigeration system which functions during the refrigeration cycle, means for supplying heat to be absorbed by the secondary evaporator, a conduit between the secondary evaporator and the receiver of the refrigeration apparatus for supplying liquid refrigerant from the receiver to the evaporator, a conduit between the secondary evaporator and the low side of a compressor whose high side is connected to the evaporator to be defrosted, and means controlling flow of refrigerant through the secondary evaporator.

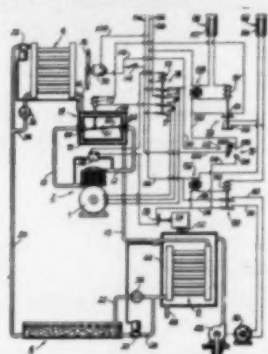
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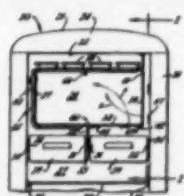
BOX 1500,
REALSERVICE ADVTG.
110 West 34th St., N.Y.C.

2,748,572. AIR CONDITIONING SYSTEM. Michael Pararo, Arlington, N. J. Application Dec. 6, 1952, Serial No. 324,558. 3 Claims. (Cl. 62-4.)



1. In an air conditioning system of the character described which includes a refrigeration system having a compressor and main motor therefor and a cooling or heating coil through which air is directed to subject the air to a desirable heat transfer operation and which includes a heat absorbing or dissipating unit through which a stream of water passes so as to provide a source of heat or so as to carry away heat as desired, a pump and driving motor to supply said stream of water, a reversing valve which has two positions in one of which a fluid flow is provided to cause said coil to act as a heating coil and in the other of which a fluid flow is provided to cause said coil to act as a cooling coil, a solenoid unit which is energized to operate said reversing valve, a heating thermostat which is adapted to close when there is a demand for heating and to open when said demand is satisfied, a cooling thermostat which is adapted to close when there is a demand for cooling and to open when the demand is satisfied, circuit means which is adapted to energize said solenoid unit upon the closing of one of said thermostats, a normally open relay switch in parallel with said cooling thermostat, solenoid means to close said relay switch when said heating thermostat closes, circuit means which energizes said motor for said pump upon the closing of said cooling thermostat or said relay switch, a circulating fan for circulating air over said cooling or heating coil, a fan motor for driving said fan, circuit means including a main motor relay having a plurality of switches and a solenoid which is energized to close said switches, said circuit means connecting said main motor to power lines upon the closing of said switches and simultaneously starting said fan motor, an auxiliary switch which is closed to operate said fan motor independently of said motor relay, and circuit means for said motor relay including a pressure switch which is closed by the pumping of water under pressure by said pump and safety switches in series therewith which are opened by improper operating conditions of said compressor.

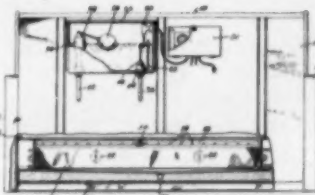
2,748,573. REFRIGERATOR HAVING AN ADJUSTABLE EVAPORATOR CONSTRUCTION. Lloyd A. Staebler, Oreland, and Robert G. Kurtz, Philadelphia, Pa., assignors to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application Jan. 21, 1953, Serial No. 322,416. 13 Claims. (Cl. 62-89.)



1. A refrigerator comprising a cabinet, a generally rectangular evaporator shell defining a freezing compartment occupying a predetermined portion of the space within said cabinet, the space to one side of said shell providing a non-freezing compartment within said cabinet, two adjacent side wall portions of said shell being movably mounted on and supported by other wall portions of said shell, said adjacent side wall portions being disposable in a position to cooperate with the remaining wall portions of said shell including said other wall portions to define the aforesaid freezing compartment, said two adjacent side wall portions of said shell also being disposable in another position to provide said non-freezing compartment with added space which is normally occupied by said freezing compartment, and means provided on one of the two mentioned adjacent side wall portions to support food-supporting means within the space added to the non-freezing compartment when said adjacent side wall portions are disposed in said other position.

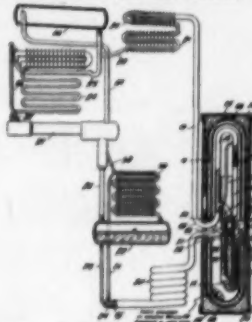
supported by other wall portions of said shell, said adjacent side wall portions being disposable in a position to cooperate with the remaining wall portions of said shell including said other wall portions to define the aforesaid freezing compartment, said two adjacent side wall portions of said shell also being disposable in another position to provide said non-freezing compartment with added space which is normally occupied by said freezing compartment, and means provided on one of the two mentioned adjacent side wall portions to support food-supporting means within the space added to the non-freezing compartment when said adjacent side wall portions are disposed in said other position.

2,748,574. WATER DEFROST REFRIGERATED SHOWCASE. Donald H. Gaston, Los Angeles, Calif., assignor to Weber Showcase & Fixture Co., Inc., Los Angeles, Calif., a corporation of California. Application March 24, 1952, Serial No. 278,346. 5 Claims. (Cl. 62-89.5.)



1. A water defrost refrigerated showcase comprising: an open display bin, air circulating passages at the front and rear of said display bin, an air circulating passage beneath said display bin, a blower, refrigerating coils in said last mentioned passage through which coils refrigerant is circulated, and means in said last mentioned passage for spraying water over said refrigerating coils to defrost said coils, a tank for storing water for said spraying means, a ball valve controlling flow from said tank, and a float valve controlling flow into said tank.

2,748,575. ABSORPTION REFRIGERATION. Sigurd Mattias Backstrom, Stockholm, Sweden, assignor to Aktiebolaget Elektrolux, Stockholm, Sweden, a corporation of Sweden. Application Dec. 2, 1952, Serial No. 323,600. Claims priority, Application Sweden Dec. 6, 1951. 11 Claims. (Cl. 62-119.5.)



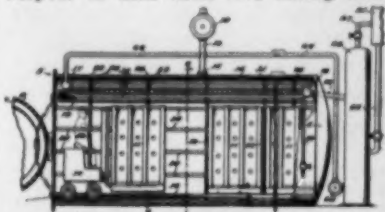
1. In an absorption refrigeration system having a vapor supply line, a circuit for circulation of absorption liquid comprising an absorber and a vertically extending generator and liquid heat exchanger therebetween having passages for flowing in thermal relation absorption liquid rich and weak, respectively, in refrigerant, a plurality of upright pipes in the immediate vicinity of one another, one of said pipes forming a heating tube, said generator comprising several of said pipes which are connected in said circuit and at least two of which contain absorption liquid arranged to receive heat from said heating tube, said two pipes respectively forming a boiler which communicates with the vapor supply line and a vapor-liquid lift tube, and means for thermally insulating said generator and said heating tube from the surroundings comprising a multi-section insulating structure, at least one of said sections constituting a double-walled vessel, having a vacuum between the inside and outside walls thereof, which envelops one end of said generator and extends into a vertical direction toward the opposite end thereof, another section of said insulating structure being connected to the open end of said double-walled vessel, a plurality of said sections being connected to the open end of said double-walled vessel, a plurality of said sections being connected to the open end of said double-walled vessel, a plurality of said sections being connected to the open end of said double-walled vessel.

section of said insulating structure being connected to the open end of said double-walled vessel, a plurality of said sections being connected to the open end of said double-walled vessel, a plurality of said sections being connected to the open end of said double-walled vessel, a plurality of said sections being connected to the open end of said double-walled vessel.

2,748,576. FRUIT AND VEGETABLE COOLER. Theodore J. Feukert, Sr., and Frank John Hibbs, Sr., Los Angeles, Calif. Application Oct. 28, 1952, Serial No. 317,336. 8 Claims. (Cl. 62-169.)

1. In an apparatus of the class described, the combination of a casing in which to place produce to be cooled, said casing having a door at least at one end thereof and sealing means for the door, refrigeration coils within said casing at and along the entire top thereof to condense the water vapor evaporated from the produce, means for exhausting air from said casing and a vacuum pump in communication with said air exhausting means, means for circulating a re-

frigerant through said coils, a pan mounted below said coils in relatively close relation thereto to prevent dripping of moisture from the coils onto the produce to be cooled, said pan being so arranged and disposed with respect to said coils and casing and



terminating at its opposite side edges in spaced relation to the walls of the casing as to give a maximum space on both sides of said pan along the entire length of the casing for the passage of water vapor in its path of travel from the produce to be cooled to said refrigeration coils where said water vapor is condensed, and a drain line extending from said pan.

(To Be Continued)

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Write BOX A5652, Air Conditioning & Refrigeration News

Servel Gas Units-- 179 To Exhibit at Truck Group Show In Chicago Oct. 29-31

(Concluded from Page 1, Col. 3)

Wall expressed confidence that this contraction of Servel's operations will "result in satisfactory working capital, manpower, and facilities to properly exploit products retained."

Asserting that the company's present model gas refrigerator "performs better than any earlier manufactured Servel refrigerator" and "equally as well or better than most of the electric refrigerators on the market today," he announced that it will be retained through 1957.

Only changes contemplated, he added, are "mechanical changes for improvement, such as safety door latch mechanism, better shelving arrangement, etc."

Wall declared that Servel must quickly become a lower cost producer, so as to reduce the cost differential between the electric refrigerator and the gas refrigerator.

First step, he said, is to hold the line on price, despite recent increases in steel and labor costs. "I cannot guarantee or promise we can get by," he added, "but we are trying."

Second step is to get volume production and sales. For this, he appealed to the utilities to "give careful consideration to taking on the distributorship of gas refrigerators."

"If you cannot act as a distributor, push merchandising to the hilt," he urged.

He asked the utility officials to pledge to themselves "a determination to increase by 50% the number of gas refrigerators to be added to your meters in 1957, as compared to the number being added in 1956."

"Even that won't be many, but it is enough, if done collectively, to assure availability of gas refrigerators in '58 and thereafter."

G-E Home Heating, Cooling Fall Sales Meetings Opened

BLOOMFIELD, N. J.—The General Electric Co.'s Home Heating and Cooling Dept. will hold its fall sales conferences from Oct. 21 through Nov. 10 at the Gulf Hills dude ranch at Ocean Springs, Miss.

Distributors and sales representatives from the south central region will meet from Oct. 22 to 24, from the east central region Oct. 25 to 27, from the central region Oct. 29 to 31, from the southeastern region Nov. 1 to 3, from the north-eastern region Nov. 5 to 7, and from the eastern region Nov. 8 to 10.

At these sales meetings, the distributors will preview the new 1957 line of products to be announced to the public after the first of the new year.

These products will include the first new residential air conditioning model coming off the assembly line at the company's new \$15 million cooling plant in Tyler, Texas.

The role of the independent distributor will be stressed. A new marketing program intended to strengthen and accelerate the flow of products from factory to end user will be presented.

Vans Back of Cabs—High and Low Temperature." Exhibit visitations are set for 1:30 to 5:30.

Industry presentation and discussion of "special interest to manufacturers of truck bodies and special truck equipment" from 10 a.m. to 12 noon, Tuesday, Oct. 30 is divided into five parts: a) Trends in insulation and refrigeration; b) plastics; c) standardization; d) human/industrial relations; e) aluminum bodies and floors. From 1:30 to 10 p.m. there will be exhibit visitations.

Final day of the convention programs exhibit visitations for 9 a.m. to 12 noon, and 1:30 to 5 p.m.

Receptions are scheduled for 6:30 Monday evening, sponsored by the Ford Div., Ford Motor Co., and Wednesday at 6 p.m., sponsored by 1956 exhibitors. At 7:30 the final evening (Wednesday, Oct. 31) there will be entertainment at the banquet.

ARW Clinic--

(Concluded from Page 1, Col. 3)

by panel presentations on timely subjects of interest to the field, followed by conferences on knotty problems encountered by the trade. Panelists are being carefully selected, the committee states, so that discussions and conferences will be highly authoritative and beneficial.

Individual conference tables manned by representative manufacturers will be available to all registered guests for discussion of specific products and problems with new equipment now offered to the field.

The two-day session will also include a banquet, cocktail party, and entertainment.

The Product Knowledge Clinic will be held at the Morrison hotel. Tickets and registration forms will be available through all Region 6 ARW Wholesalers and at the Clinic.

Philco Ranges--

(Concluded from Page 1, Col. 5)

declined to comment on trade reports that Philco was seeking to acquire Avco's Bendix Div. However, he acknowledged that Philco has "talked with Avco and others about an arrangement of some kind whereby they (Avco) and others might make part of our laundry equipment."

No mention was made of ranges in statements by Philco and Avco at that time.

Last week, Skinner reportedly stated that the Philco-Avco agreement on range production has no effect on the earlier reports that Philco was seeking to acquire the Bendix laundry line.

He added that he had nothing further to say at the present time regarding the latter situation.



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